

the anterior one on the front surface of the snout just internal to the root of the maxillary cirrus, divided from the posterior by the nasal cirrus; the posterior nostril rather more than one diameter from the median line of the skull. Nasal cirri thin, extending to opposite the posterior margin of the orbit; the maxillary reaching to the commencement of the base of the anal fin; the two pairs of labial cirri arise close together, the root of the internal one slightly in front of that of the external one, and both nearly under the symphysis, whilst they reach to the first third of the pectoral fin.

Teeth in both jaws in numerous fine rows; those in the vomer and palatine bones separated by a very short interspace in the central line, and each of these again divided into two separate patches of an almost oval form, so that their inner margin has three emarginations.

Fins. Dorsal commences opposite the centre of the pectoral. Ventral under the posterior third of the dorsal. Adipose dorsal over about the thirty-second anal ray. First dorsal pointed; its spine sharp, strong, rugose anteriorly, and serrated posteriorly in its upper two-thirds, whilst it has a soft termination. Pectoral spine strong, finely serrated internally, whilst it is one-fourth longer than the dorsal spine. Ventral small, and extending as far as the anus. Caudal deeply forked, with pointed lobes.

Lateral line nearly straight, dividing into two at the root of the caudal fin.

Air-bladder large, simple.

Colours. Silvery, with a gloss of green along the back and head. Caudal stained rather darkish. All the other fins diaphanous.

Grows to upwards of $1\frac{1}{2}$ foot in length, and is good eating.

Hab. Kurnool and the rivers of the Deccan.

May 23, 1867.

Dr. J. E. Gray, F.R.S., V.P., in the Chair.

Mr. E. Blyth, C.M.Z.S., exhibited a series of drawings of the horns of various Indo-Chinese species of Deer (*Cervus duvauceli*, *C. schomburgki*, &c.).

Mr. Blyth also exhibited two specimens of Crows from a collection of skins sent from Australia, evidently of two different species, one being considerably larger than the other, and differing in some other particulars. The smaller kind was stated to be that figured in Mr. Gould's 'Birds of Australia,' vol. iv. pl. 18, as *C. coronoides*, Gould, where the figure is stated to be of the natural size; but the specimen exhibited had a longer wing, measuring 12 inches from the carpus, and the lanceolate feathers of the front of the neck were considerably less strongly developed than in Mr. Gould's representation of the species.

The White-eyed Australian Crow at present in the Society's Gardens, the manners of which were exceedingly like those of the British Jackdaw, was identical with this smaller kind. Length from bill to gape $2\frac{1}{4}$ inches, of tail $7\frac{1}{2}$ inches, tarsus $2\frac{1}{4}$ inches, and middle toe with claw 2 inches. The larger species was probably that noticed by Mr. Ramsay in the 'Ibis' for 1865, p. 303, as being distinguished by having a dark-coloured iris. The lanceolate feathers in front of the neck were considerably more developed than in the other; and the throat was bare of feathers to a much greater extent, having merely a narrow central strip of them. Length of wing from carpus $14\frac{3}{4}$ inches, tail 9 inches, bill from point to gape $2\frac{3}{4}$ inches, tarsus $2\frac{1}{2}$ inches, and middle toe and claw $2\frac{3}{8}$ inches. In the smaller species the bill was more distinctly angulated than in the other; but in other respects the two bore a near resemblance.

The following papers were read:—

1. List of Birds collected by Mr. Wallace on the Lower Amazons and Rio Negro. By P. L. SCLATER, M.A., F.R.S., and OSBERT SALVIN, M.A., F.Z.S.

(Plates XXIX. & XXX.)

Mr. Wallace having kindly placed in our hands the collection of birds remaining in his possession from his former travels on the Lower Amazons and Rio Negro, we have had great pleasure in determining the species and in compiling the subjoined list of them. As regards the vicinity of Pará and the Lower Amazons Mr. Wallace believes the series now remaining in his hands to contain specimens of nearly all the species collected, with the exception of the water-birds, some of which have been altogether parted with. But a large part of the collections made on the Rio Negro, as likewise nearly all those from the Upper Amazons above Barra, were most unfortunately lost in the manner mentioned by Mr. Wallace in the Preface to his 'Travels on the Amazon and Rio Negro' (Preface, p. 4). Some few specimens of Upper-Amazons species still remain in Mr. Wallace's possession; but we have not included their names in the present list, as the country in which they were collected belongs to a different zoological province.

Many naturalists have at different times passed up and down the Lower Amazon and Rio Negro, and collected at various points on their banks; but we are still without anything like a detailed or connected account of the ornithology of the regions through which they travelled. It is in fact only within the last few years that the importance of giving exact localities to objects of natural history has met with the appreciation it deserves. Coming as it does from ground so repeatedly traversed, it was not to be expected that Mr. Wallace's collection would contain many novelties; and it is therefore chiefly with the object of elucidating the avifauna of this region, and fixing to exact localities species of which the precise *patria*

was hitherto unknown, that this catalogue has been prepared. Mr. Wallace has rendered it more valuable by adding notes on the habits and range of certain species, which have his initials affixed to them.

The principal localities wherein the present collection was formed were:—

1. Mexiana. An island situated in the main stream of the Amazons, between the great Island of Marajo and the northern shore. Mr. Wallace has given an account of his sojourn in this island in his 'Travels,' p. 86, where he speaks of it as follows:—

"The Island of Mexiana is about twenty-five miles long by twelve broad, of a regular oval shape, and is situated exactly on the Equator. It is quite flat, and is all *campo*, or open ground, but dotted with scattered trees and bushes, and with a little forest at the water's edge. It is celebrated for its birds, alligators, and onças, and is used as a cattle estate by the proprietor."

2. Island of Marajo. A few specimens were collected at Jungcal, on the northern side of this island (see 'Travels,' p. 107).

3. Para. The species marked "Para" were all collected within ten miles of the city. The forest commences within two miles of the town. The whole aspect of the country is fully described in the second chapter of Mr. Wallace's interesting narrative.

4. Rio Tocantins. The species marked thus were collected between the mouth of the river and the first falls, during the excursion spoken of in Mr. Wallace's 'Travels,' Chap. III. Some interesting remarks on the same subject will also be found in Mr. Bates's well-known 'Naturalist on the Amazons,' Chap. IV.

5. Rio Capim. This is a small river issuing into the Rio Para, near the city of Para. Mr. Wallace gives an account of his excursion up this river in Chap. V. of his 'Travels.'

6. Rio Negro. A full account of Mr. Wallace's journey on this river and its affluents will be found in Chap. VII. and four following chapters of his narrative. It is much to be regretted that the species from this district recorded in the present list form but a very small portion of the number actually collected—the series reserved by Mr. Wallace for his own use having been lost in the manner already mentioned, and that transmitted to England dispersed without any record having been kept of it.

Besides the specimens obtained at these localities, a few others were procured at various points of the main stream on the voyage up to Barra, chiefly at Montalegre and Santarem.

The following list gives the names of all the species remaining in Mr. Wallace's hands from the above-mentioned localities. A few well-known species, identifiable without any chance of error from Mr. Wallace's notes, have been added to it—and a few others, of which examples collected by Mr. Wallace are in Selater's collection or in the British Museum.

The nomenclature adopted for the Passeres, Picariæ, and Psittaci is that of Selater's 'American Catalogue,' unless the contrary is stated. The species described as new are three in number, namely *Hylophilus rubrifrons*, *Hylophilus semicinereus*, and *Heteropelma*

wallacii. Mr. Wallace has kindly furnished us with notes upon some of the species, which are indicated by his initials.

Fam. TURDIDÆ.

1. TURDUS PHÆOPYGUS, Cab. (Pl. XXIX.)

Cobati, Rio Negro, 1851, two examples, "eyes olive." In Sclater's collection from Para.

The young of this species has a good deal of black colouring on the edges of the breast-feathers, which wear off in the adult, and leave the breast pure grey. One of Mr. Wallace's skins is a bird of the year and exhibits this plumage, which, however, is still more strikingly shown in a still younger specimen in Sclater's collection, shot by Mr. C. Bartlett on the Maroni River, Surinam, in the spring of 1866, and represented in Plate XXIX.

2. TURDUS ALBIVENTRIS, Spix, Av. Bras. i. p. 70, t. 69; Cab. Mus. Hein. i. p. 4; Cab. in Schomb. Guian. iii. p. 666.

Turdus ephippialis, Sel. P. Z. S. 1862, p. 109; Cat. A. B. App. p. 358. Mexiana, Dec. 1848, one example.

In reviewing the American Turdi for our proposed 'Index Avium Americanarum' we have clearly made out that Sclater's *Turdus ephippialis* is the true *T. albiventris* of Spix, as determined by Cabanis, *l. s. c.* The bird hitherto called *T. albiventris* by Sclater is *T. amaurochalinus*, Cab. Mus. Hein. i. p. 5.

3. TURDUS FUMIGATUS, Licht.

Mexiana, Dec. 1848, one example.

4. DONACOBIVS ATRICAPILLUS (Linn.).

Para, one example; also obtained on the Upper Amazons, June 1850, one example.

"This species frequents the reed-beds and low trees on the banks of the Amazons, and has a very fine song."—A. W.

Fam. TROGLODYTIDÆ.

5. THRYOPHILUS LEUCOTIS (Lafr.).

Thryothorus leucotis, Lafr. R. Z. 1845, p. 338.

T. albipectus, Cab. in Schomb. Guian. iii. p. 673, et Sclater, Cat. A. B. p. 20.

T. galbraithi, Lawrence; Baird, Rev. A. B. p. 131.

Island of Marajo, Feb. 1849, one example.

This example agrees with Cayenne skins of the species hitherto called *T. albipectus* in Sclater's collection. But Lafresnaye's name is the oldest and must be adopted. As to the distribution of this species, see our note, P. Z. S. 1864, p. 345.

6. TROGLODYTES FURVUS (Gm.).

Para, August 1848, one example.

Fam. MOTACILLIDÆ.

7. ANTHUS CHII, Vieill.

Mexiana, Dec. 1848.

"Tolerably plentiful in the open dry plains of Mexiana."—A. W.

Fam. MNIOTILTIDÆ.

8. GEOTHYLPIS ÆQUINOCTIALIS (Gm.).

Mexiana, Dec. 1848 and Jan. 1849.

Represented in the Brazilian fauna by the closely allied *G. velata*.

Fam. HIRUNDINIDÆ.

+ 9. PROGNE LEUCOGASTRA, Baird, Rev. A. B. i. p. 280.

Mexiana and Para, three examples.

These specimens do not differ from the Central American *P. leucogastra*, which Prof. Baird has correctly separated from the Antillean *P. dominicensis*.

10. PROGNE TAPERA (Linn.).

Rio Tocantins.

11. HIRUNDO ERYTHROGASTRA, Bodd.

Mexiana, one example, juv.

12. HIRUNDO ALBIVENTRIS, Bodd.

Para.

13. ATTICORA FASCIATA (Gm.).

Rio Negro.

"Common on the banks of the lower and middle Rio Negro."—
A. W.

Fam. VIREONIDÆ.

14. VIREOSYLVA AGILIS (Licht.).

Para.

15. CYCLORHIS GUIANENSIS (Gm.).

Para, March and June 1849.

Agrees with Cayenne examples; represented by *C. ochrocephala* in the Brazilian fauna.

—16. HYLOPHILUS RUBRIFRONS, sp. nov. (Pl. XXX. fig. 1.)

Cinerascenti-olivaceus, dorso imo virescentiore: fronte angusta, distincte rubra: secundariis extus flavescente rufo tinctis: cauda rufa unicolore: subtus ochraceus, abdomine cinerascens, lateribus virescente perfusus: subalaribus pallide flavis: rostro superiore corylino, inferiore cum pedibus pallidis.

Long. tota 4·3, alæ 2·1, alæ rem. prim. 1·3, caudæ 1·5, tarsi 0·6, rostri ab ang. oris 0·7 poll. Angl.

Hab. River Amazons (1850).

Obs. Species fronte rubra et cauda rufa insignis.

Of this apparently new *Hylophilus*, Mr. Wallace's collection contains unfortunately but one specimen. It is easily distinguishable by its red front and rufous tail from every other species of the genus known to us. *H. ochraceiceps* has also a rufous tail, but of a much more ochraceous tinge, and in other respects does not much resemble the present bird.

The fourth, fifth, and sixth primaries of *H. rubrifrons* are nearly equal and longest; the third slightly exceeds the seventh; the second just equals in length the longest secondary. The exposed portion of the first primary measures 0·7 inch.

+ -17. *HYLOPHILUS SEMICINEREUS*, sp. nov. (Pl. XXX. fig. 2.)

Supra viridi-olivaceus, nucha vix cinerascens: subtus pallide cinereus, ventre medio albicante, crisso flavo tincto: subalaribus flavis: rostro læte corneo, pedibus pallidis.

Long. tota 4·5, alæ 2·1, alæ rem. prim. 1·2, caudæ 1·7, tarsi 0·7, rostri ab ang. oris 0·6.

Hab. Para (Wallace).

One example only of this *Hylophilus* also is in Mr. Wallace's collection, obtained at Para in May 1849. It is likewise a distinct species of the genus, readily recognizable by its uniform pale cinereous colour below. The first primary measures 0·75 inch from the insertion. The second is 0·25 inch shorter than the third, fourth, fifth, and sixth, which are nearly equal and longest.

Fam. CÆREBIDÆ.

18. *DACNIS CAYANA* (Linn.).

Para.

19. *CÆREBA CÆRULEA* (Linn.).

Upper Rio Negro.

20. *CÆREBA CYANEA* (Linn.).

Para, Feb. 1849, and Upper Rio Negro, Feb. 1850.

21. *CERTHIOLA CHLOROPYGA*, Cab.

Three Mexiana specimens of this variable bird do not seem to differ from the Brazilian *C. chloropyga*. A fourth skin from Cobati, Rio Negro, shows a small white wing-spot, but does not otherwise differ. The last may be correctly referable to *C. guianensis*; but we are at present unable to appreciate the differences between the local races of this variable bird.

Fam. TANAGRIDÆ.

22. *EUPHONIA CAYANA* (Linn.).

Para.

23. *CALLISTE FLAVIVENTRIS* (Vieill.).

In Sclater's collection from Barra (*Wallace*).

24. *CALLISTE BOLIVIANA*, Bp.

In Sclater's collection from the Capim River (*Wallace*).

25. *TANAGRA EPISCOPUS*, Linn.

Para, Aug. 1848.

26. *TANAGRA PALMARUM*, Max.

Mexiana, Dec. 1848.

27. *RAMPHOCÆLUS NIGRIGULARIS* (Spix).

Middle Amazons, 1850. In Sclater's collection from Barra (*Wallace*).

"This Tanager is found only on the right bank of the Rio Negro, and is never known to cross the river to the Cayenne side. It is found on both banks of the Upper Amazons above Barra."—A. W.

28. *RAMPHOCÆLUS JACAPA* (Linn.).

Mexiana and Para.

"One of the commonest birds in gardens at Para, and generally in the Lower-Amazons district."—A. W.

29. *EUCOMETIS PENICILLATA* (Spix).

Mexiana, Dec. 1848.

Sclater's specimens referred to *E. albicollis* are not different from the present bird, whatever *Pyranga albicollis*, Lafr. et D'Orb., may be. It occurs also on the Ucayali (*Bartlett*) and Napo (Mus. P. L. S.), and may therefore probably extend into the wood-region of Bolivia.

30. *TACHYPHONUS MELALEUCUS* (Sparrrn.).

Para, and Tocantins River.

31. *TACHYPHONUS SURINAMUS* (Linn.).

Para, March and May 1849. In Sclater's collection from Guia, Rio Negro, but here slightly different, and probably the same as Mr. Lawrence's *T. napensis*, Ann. L. N. Y. vii. (June 1864).

32. *TACHYPHONUS CRISTATUS* (Gm.).

Para, May 1849. Agrees with Brazilian specimens.

33. *TACHYPHONUS CRISTATELLUS*, Sclater.

One skin from Guia, Rio Negro, agrees nearly with the type of this species from Bogota, except in rather smaller size. We have not been able to compare it with Cayenne skins; but the probability is that the latter also belong to this form.

34. *NEMOSIA PILEATA* (Bodd.).

Para, Jan. 1849.

35. ARREMON SILENS (Bodd.).

Capim River, June 1849.

36. SALTATOR MAGNUS (Gm.).

Para, February and May 1849.

37. SALTATOR MUTUS, Licht.

Mexiana, Nov. 1848 and Jan. 1849.

A young specimen has a strong olivaceous tinge on the back, wing-edges, and breast. *Tanagra superciliaris*, Spix, is probably the same bird, though very indifferently figured.

38. PITYLUS ERYTHROMELAS (Gm.).

Capim River, June 1849.

39. PITYLUS VIRIDIS (Vieill.).

Para.

Represented in the Brazilian wood-region by *P. brasiliensis*.

Fam. FRINGILLIDÆ.

40. ORYZOBORUS TORRIDUS (Gm.).

Para, Oct. 1848.

41. SPERMOPHILA LINEATA (Gm.).

Para, Oct. 1848; Mexiana, Jan. 1849; Amazons (north side).

42. SPERMOPHILA LINEOLA (Linn.).

Mexiana, Tocantins, and Amazons (north side).

The male shows less white on the rump than a Cayenne skin in Sclater's collection, and *no white crown-spot*. In this stage it more resembles *S. bouvronides* (Less.) in Sclater's collection, which, however, is probably merely a variety of the same species.

43. SPERMOPHILA GUTTURALIS, Licht.

Para, Oct. 1848.

44. VOLATINIA JACARINA (Linn.).

Barra and Guia.

45. PAROARIA GULARIS (Linn.).

Mexiana.

"Very common all about Para, on the banks of the rivers."—A.W.

46. COTURNICULUS MANIMBE (Licht.).

Mexiana.

47. EMBERIZOIDES MACROURUS (Gm.).

Mexiana, Dec. 1848.

Rather larger than the Cayenne bird, and wings more olivaceous,

also the uropygium lighter and less spotted; intermediate between it and the Brazilian *E. sphenurus*.

"Found among the grass on the campos near the ground."—A. W.

48. *SYCALIS BRASILIENSIS* (Gm.).

North side of the Amazons.

Smaller than *S. brasiliensis* from Brazil, but not otherwise different.

49. *SYCALIS HILARII*, Bp.

Mexiana, Dec. 1848.

Fam. ICTERIDÆ.

50. *OSTINOPS VIRIDIS* (Vieill.).

Para.

51. *CACICUS PERSICUS* (Linn.).

Para.

"One of the commonest and most conspicuous birds in the Para district. Lives in colonies, building beautiful long nests, generally hanging over the water."—A. W.

52. *CACICUS HÆMORRHOUS* (Linn.).

Para.

"The same in habits as *C. persicus*, but much more scarce."—A. W.

53. *ICTERUS CAYANENSIS* (Linn.).

Island of Marajo.

"This bird is called the 'Rossignol' or Nightingale at Para, and is often kept in cages."—A. W.

54. *MOLOTHRUS SERICEUS* (Licht.).

Mexiana.

55. *XANTHOSOMUS ICTEROCEPHALUS* (Linn.).

Amazons, north side.

56. *LEISTES GUIANENSIS* (Linn.).

Amazons (north side) and Mexiana.

"Found only in open grounds, amongst grass."—A. W.

57. *CASSIDIX ORYZIVORA* (Gm.).

Para.

Fam. DENDROCOLAPTIDÆ.

—58. *SCLERURUS CAUDACUTUS*.

Thamnophilus caudacutus, Vieill. Nouv. Dict. iii. p. 310, et Enc. Méth. p. 742.

Sclerurus brunneus, Sclater, P. Z. S. 1857, p. 17, et 1858, p. 62. Capim River.

One example, fully agreeing with Sclater's specimens from Bogota and Cayenne, upon which he has founded his *S. brunneus*. On revising the synonymy of this group, however, it appears that the species indicated by Vieillot as *Thamnophilus caudacutus* was from Guiana; and it is, therefore, this Guianan species (and not the South-east-Brazilian form) which ought to bear his name. The bird of the Brazilian wood-region must therefore take the next earliest name applicable to it, and stand as *Sclerurus umbretta* (Licht.).

† 59. SCLERURUS MEXICANUS, Sclater, P. Z. S. 1856, p. 290, & Am. Cat. p. 149.

Capim River.

A single specimen of Mr. Wallace's agrees in every respect with a considerable series of skins of this species in our collections from Mexico and Central America. They are from the following localities:—Mexico, Cordova (*Sallé*), Jalapa (*De Oca*); Guatemala, Chocutum and Pacific slope (*Salvin*); Veragua (*Arcé*). We have been unable to refer to Swainson's *S. ruficollis*, stated to be figured in his 'Birds of Brazil.' In all copies of this work to which we have had access, this plate (t. 79) and also t. 78, where *S. albigularis* of the same author is figured, are deficient. It is possible that this bird may be the species figured in the first of these two plates, in which case it should bear Swainson's name.

60. SYNALLAXIS RUTILANS (Temm.).

An immature specimen, collected at Para in May 1849, of this species.

61. LEPTOXYURA CINNAMOMEA (Gm.).

Mexiana and Tocantins.

62. PHILYDOR ERYTHROCERCUS, Pelzeln.

Para, March and May 1849, three examples.

One of these skins (marked ♂) agrees very nearly with Sclater's Cayenne specimen of this species, and with a typical specimen of Natterer's from Barra, also in his collection. Two others are larger and stronger, clearer white below, and with a more rufous tinge on the wings. The superciliary stripes are absent, and the tail is longer and more rounded. We are in some doubt whether these latter specimens do not belong to a distinct species.

† 63. GLYPHORHYNCHUS CUNEATUS, Licht.

Para and Capim River.

64. DENDROCINCLA FUMIGATA (Licht.); Burm. Syst. Ueb. iii. p. 8.

Three specimens from Para, referable, as far as we can make out, to this species.

65. *DENDROCOLAPTES CAYENNENSIS* (Gm.); Buff. Pl. Enl. 621.

Para, two examples, April and May 1849.

Agreeing with Cayenne specimens of this species, but different from the bird so named in Sclater's collection, which is from the Upper Amazons, and is probably undescribed.

66. *DENDRORNIS OCELLATA* (Spix).

Dendrocolaptes ocellatus, Spix, Av. Bras. i. p. 88; *D. guttatus*, ejusd. tab. 91. fig. 1.

One example, obtained at Para, agrees with a specimen in Sclater's collection, also from Para, collected by Natterer, and determined by H. v. Pelzeln to be of this species.

67. *DENDRORNIS EYTONI*, Sclater.

Para, agreeing with the type obtained by Mr. Wallace, on the Rio Capim, in Sclater's collection. This species is closely allied to *D. rostripallens*, Lafr.

68. *DENDROPLEX PICUS* (Gm.).

Para.

69. *XIPHORHYNCHUS TROCHILIROSTRIS*, Licht.

"River Amazons, north bank: ♀, eyes dark blue."

"Obtained near Montalegre in a dry forest."—A. W.

Fam. FORMICARIIDÆ.

70. *THAMNOPHILUS MAJOR*, Vieill.

Para, examples of both sexes, Oct. 1848.

71. *THAMNOPHILUS LUCTUOSUS*, Licht., Doubl. p. 47.

One example, from the Rio Tocantins, Sept. 1848.

72. *THAMNOPHILUS*, sp. ?

One example from the Amazons (1849), agreeing with a skin of Natterer's in Sclater's collection from the Rio Negro, marked "female" (no. 928). We do not know the male of this species.

73. *THAMNOPHILUS NIGRO-CINEREUS*, Sclater.

Two males, from the Rio Tocantins and Mexiana, agreeing perfectly with Sclater's type specimen, which is also evidently one of Mr. Wallace's skins.

74. *THAMNOPHILUS AMAZONICUS*, Sclater.

Specimens of both sexes from Para and Capim River.

†75. *THAMNOPHILUS DOLIATUS* (Linn.).

Island of Marajo.

76. *THAMNOPHILUS RADIATUS*, Spix, Av. Bras. ii. p. 24, t. 35. f. 2.

Amazons. Perhaps different from the *T. radiatus* of Vieillot (ex Azara), as pointed out by Sclater (P. Z. S. 1858, p. 218), but evidently the bird figured by Spix.

77. *THAMNOPHILUS PALLIATUS*, Licht.

Para.

78. *DYSITHAMNUS PLUMBEUS* (Max.).

Amazons, examples of both sexes.

79. *MYRMOTHERULA AXILLARIS*, Vieill.

Capim River, examples of both sexes.

80. *MYRMOTHERULA BREVICAUDA* (Sw.).

Capim River.

81. *MYRMOTHERULA HAWXWELLI*, Sclater.

Capim River. A female of this species.

82. *FORMICIVORA GRISEA* (Bodd.).

Rio Tocantins, Sept. 1848. A single female of this species.

+ 83. *RAMPHOCÆNUS MELANURUS*, Vieill.

Capim River, July 1849.

84. *PYRIGLENA ATRA* (Sw.).

Para.

85. *HYPOCNEMIS MELANOPOGON*, Sclater.

Examples of both sexes of this species from Mexiana, Dec. 1848, agreeing with specimens from Cayenne.

86. *PITHYS ALBIFRONS* (Gm.).

Cobati, Rio Negro.

87. *PITHYS LEUCASPIS*, Sclater.

Cobati. A specimen, marked *male*, wanting the concealed dorsal patch, which is probably only found in the female.

88. *PHLOGOPSIS NIGROMACULATA* (Lafr. et D'Orb.).

Para, May 1849.

+ 89. *FORMICARIUS CRISSALIS*, Cab. Journ. f. Orn. 1851, p. 96.

One example, from Para (Oct. 1848), agreeing in every respect with Cabanis's description. A skin in Sclater's collection from Trinidad (or Venezuela) is much darker below, and has the black throat

not so clearly defined. It is perhaps different. The present bird is grey below, medially paler, just as described by Cabanis.

90. *CORYTHOPIS ANTHOIDES*, Sclater.

Para, May 1849. Easily distinguishable from its Brazilian representative *C. calcarata*.

Fam. TYRANNIDÆ.

91. *ATTILA THAMNOPHILOIDES* (Spix).

Mexiana.

92. *TÆNIOPTERA VELATA* (Licht.).

Mexiana, Dec. 1848.

93. *FLUVICOLA ALBIVENTRIS*, Spix.

Mexiana, Dec. 1848.

94. *CNIPOLEGUS UNICOLOR*, Kaup, Journ. f. Orn. 185, p. 29 (?).

One example without exact locality attached. Resembles Kaup's description in having the entire plumage black, without any white inside the wings; but is of much smaller dimensions than those given by Heine (Journ. f. Orn. 1859, p. 337) for Kaup's species. Kaup does not trouble himself with dimensions.

95. *COLOPTERUS GALEATUS* (Bodd.).

Capim River, June 1849.

96. *MIONECTES OLEAGINEUS* (Licht.).

Para and Guia.

97. *PHYLLOSCARTES VENTRALIS* (Temm.); Cab. et Heine, Mus. Hein. ii. p. 52.

Mexiana. Sclater has examples of this species from New Granada and Ecuador.

98. *PHYLLOMYIAS SEMIFUSCA*, Sclater.

Mexiana, Jan. 1849.

†99. *CAMPTOSTOMA FLAVIVENTRE*, Sclat. & Salv. P. Z. S. 1864, p. 358.

Mexiana.

†100. *LEGATUS ALBICOLLIS* (Vieill.).

Para, Aug. 1848.

†101. *MYIOZETETES CAYENNENSIS* (Linn.).

Para, Aug. 1848.

PROC. ZOOL. SOC.—1867, No. XXXVII.

†102. RHYNCHOCYCLUS SULPHURESCENS (Spix).

Para, Aug. 1848. Much smaller in dimensions than either Brazilian or northern specimens of this species, but not otherwise different. -!!!

103. RHYNCHOCYCLUS RUFICAUDA (Spix).

Para, May 1849.

104. PITANGUS SULPHURATUS (Linn.).

Para.

†105. PITANGUS LICTOR (Licht.).

Mexiana, Dec. 1848.

†106. MYIODYNASTES AUDAX (Gm.).

Para, Aug. 1848.

†107. MEGARHYNCHUS PITANGUA (Linn.).

Mexiana, Dec. 1848.

108. MYIOBIUS ERYTHRURUS, Cab.

Capim River.

109. EMPIDOCANES OLIVUS (Bodd.).

Muscicapa oliva, Bodd. ex Buff. Pl. Enl. 574. f. 2 (fig. pess.).

Mexiana. Distinct from the allied *E. fuscatu*s (*Muscipeta fuscata*, Max.), with which Cabanis and Heine unite it. The latter has much more strongly marked wing-edgings.

†110. CONTOPUS BRACHYTARSUS, Selater.

Mexiana. Agrees with skins in Selater's collection from Mexico and Bogota, so probably a widely distributed species.

†111. MYIARCHUS FEROX (Gm.).

Mexiana, Dec. 1848.

112. MYIARCHUS, sp.

Rio Tocantins. A species allied to *M. nigriceps*, Selater, and apparently identical with an unnamed skin in his collection from Bogota (Cat. Am. B. p. 234. no. 1439).

113. TYRANNUS MELANCHOLICUS, Vieill.

Para.

†114. MILVULUS TYRANNUS (Linn.).

Guia, Rio Negro.

Fam. COTINGIDÆ.

115. TITYRA CAYANA (Linn.).

Examples of both sexes from Para.

†116. *HADROSTOMUS MINOR* (Less.).

Examples of both sexes from Para.

†117. *PACHYRHAMPHUS CINEREUS* (Bodd.).

Island of Mexiana and Para.

†118. *PACHYRHAMPHUS POLYCHROPTERUS* (Vieill.).

Mexiana.

119. *LIPAUGUS CINERACEUS* (Vieill.).

Para. Agreeing with Cayenne skins. One skin has light rufous edgings on the wings, and is probably immature.

†120. *HETEROPELMA WALLACII*, sp. nov.

Pallide olivaceo-virens, fere unicolor, alis caudaque extus brunnescentibus: subtus dilutior, pectore rufescente vix tincto, subalaribus cinerascanti-fuscis: rostro nigricanti-corneo, ad basin pallescente: pedibus pallide fuscis.

Long. tota 6·3, alæ 3·5, caudæ 2·6.

Hab. in vic. urbis Para (*Wallace*, May 1849).

Obs. Aff. *H. amazonum* ex fl. Amazonum superiore et ejusdem formæ et staturæ, sed corpore supra magis virescente, nec rufo tincto, et gula et abdomine pallidioribus et magis cinerascantibus diversa.

This bird appears to belong to a species different from any of the four previously known members of this peculiar genus, concerning which Sclater has written (*P. Z. S.* 1860, p. 467). It may possibly also occur in Cayenne, but we have not yet met with any species of the group from that country.

121. *IODOPLEURA ISABELLÆ*, Parz.

Rio Tocantins. We should rather have expected to meet with *I. laplaci* of Cayenne here. M. Parzudaki states that his type of *I. isabellæ* was procured on the Venezuelan Rio Negro; and the species also occurs in the Upper Amazonian district.

122. *PIPRA FILICAUDA*, Spix.

“Found in the wooded islands of the lower Rio Negro, on the lower boughs of the forest-trees.”—A. W.

123. *PIPRA FLAVICOLLIS*, Sclater.

Mexiana and north side of the Amazons. This form, which is hardly separable from *P. aureola* of Cayenne, was originally described by Sclater from specimens of Mr. Wallace’s said to have been from Barra, but more probably from the same locality as the present skins.

124. *PIPRA FASCIATA*, Lafr. et D’Orb.

Rio Tocantins. Another *Peruvian* form.

† 125. *PIPRA LEUCOCILLA*, Linn.

Para.

“This and *P. auricapilla* are the two commonest Manakins about Para.”—A. W.

† 126. *PIPRA AURICAPILLA*, Licht.

Para and Barra do Rio Negro.

127. *PIPRA CYANEOCAPILLA*, Hahn.

“Obtained in abundance on the Upper Rio Negro, on the right bank. Iris red; bill and feet black; lower mandible lead-colour.”—A. W.

128. *CHIROXIPHIA PAREOLA* (Linn.).

Para, Feb. 1849.

129. *CHIROMACHÆRIS MANACUS* (Linn.).

“Common near Para.”—A. W.

130. *PHÆNICOCERCUS CARNIFEX* (Linn.).

Para and Guia, examples of both sexes.

“Found in the tops of the forest-trees, feeding on fruit.”—A. W.

131. *RUPICOLA CROCEA*, Vieill.

Serra de Cobati, near Guia, Oct. 1850. See Mr. Wallace's notes in his ‘Travels,’ p. 221.

132. *COTINGA CÆRULEA* (Vieill.).

Para.

“Tolerably abundant in the forests near Para.”—A. W.

133. *COTINGA CAYANA* (Linn.).

Abundant on the Rio Negro.

134. *XIPHOLENA POMPADORA* (Linn.).

Guia.

135. *XIPHOLENA LAMELLIPENNIS*, Lafr.

Para.

“Shot in the forests within ten miles of Para.”—A. W.

† 136. *QUERULA CRUENTA* (Bodd.).

Capim River.

137. *HÆMATODERUS MILITARIS* (Lath.).

“Obtained by Mr. Bates at Cameta, at the mouth of the Tocantins.”—A. W.

138. *CHASMORHYNCHUS NIVEUS* (Bodd.).

“Obtained on the Lower Rio Negro, about twenty miles above

Barra. Very difficult to shoot, from its sitting at the top of very high trees. Also seen near Para (see Travels, p. 132).”—A. W.

139. *GYMNODERUS FÆTIDUS* (Linn.).

“Met with on the right bank of the Lower Rio Negro; rather plentiful on low trees on the banks of the river. Naked skin of the neck dark ultramarine blue.”—A. W.

140. *GYMNOCEPHALUS CALVUS* (Gm.).

“One specimen of this bird was obtained at Guia, on the Upper Rio Negro. The iris is blue black; the bare part of the head and also the feet dusky lead-colour. Skin of the neck loose; trachea dilated, and the voice very loud and remarkable.”—A. W.

141. *CEPHALOPTERUS ORNATUS*, Geoffr.

“Met with by me only in the wooded islands of Lower Rio Negro, between Barra and the mouth of the Rio Branco. Occurs again on the banks of the River Uaupes, above the cataracts. It is also found on the Upper Amazon near Ega (see Bates, Nat. on the Amazon, ii. p. 283). I have described its habits in an article published in the Society’s ‘Proceedings’ for 1850, p. 206.”—A. W.

Fam. MOMOTIDÆ.

142. *MOMOTUS BRASILIENSIS*, Lath.

Para.

Fam. ALCEDINIDÆ.

+ 143. *CERYLE TORQUATA*, Linn.

Tocantins: Mexiana.

+ 144. *CERYLE AMAZONIA* (Lath.).

Tocantins.

+ 145. *CERYLE INDA* (Linn.).

Mexiana.

146. *CERYLE AMERICANA* (Gm.).

Para; Tocantins; South bank of the Amazons.

+ 147. *CERYLE SUPERCILIOSA* (L.).

Mexiana.

Fam. GALBULIDÆ.

148. *GALBULA VIRIDIS* (Linn.).

Amazons, north bank, 1850.

149. *GALBULA RUFO-VIRIDIS*, Cab.

Rio Tocantins.

150. *GALBULA ALBIROSTRIS*, Lath.

Guia, Rio Negro.

151. *GALBULA CYANEICOLLIS*, Cassin.

Capim River.

152. *GALBULA LEUCOGASTRA*, Vieill.

Guia.

153. *UROGALBA PARADISEA* (Linn.).

North bank of the Amazons.

154. *UROGALBA AMAZONUM*, Sclater, P. Z. S. 1855, p. 14.

Para.

After some consideration we feel bound to resuscitate this species, which Sclater, after having described it, was persuaded by Von Pelzeln to reunite to the preceding. It is certainly readily distinguishable by its much larger size, the hoary terminations of the head-feathers, the less amount of black on the chin, and the greater extent of white on the throat below, and requires a name.

155. *BRACHYGALBA INORNATA*, Sclater.

Baiao, Rio Tocantins.

†156. *JACAMEROPS GRANDIS* (Gm.).

Capim River and vicinity of Barra, examples of both sexes.

“This bird has more the habits of the Trogons than of the true *Galbulæ*. While the latter are always found on the outskirts of the forest, the *Jacamerops* keeps rather to the gloom, where it sits on boughs hanging over the forest and captures insects.”—A. W.

Fam. BUCCONIDÆ.

157. *BUCCO COLLARIS*, Lath.

Lower Amazons.

158. *BUCCO HYPERRHYNCHUS*, Bp.

Para. Above Barra, on the south bank of the Amazons, Mr. Wallace obtained the Peruvian species (*B. napensis*, Sclater). The locality of “Upper Amazons,” commonly attributed to this species, is very probably erroneous.

159. *BUCCO TAMATIA*, Gm.

Three examples, without exact localities, agree with the Cayenne bird. A fourth, from the Capim River, has the spots on the belly crowded as in *B. pulmentum* of the Upper Amazons; but the throat is as dark as in the Cayenne bird, not pale as in *B. pulmentum*.

†160. *BUCCO TECTUS*, Bodd.

Para. Agrees with Cayenne specimens.

161. *MALACOPTILA FUSCA* (Gm.).

Upper Rio Negro.

162. *MALACOPTILA RUFa* (Spix).

Para.

163. *MONASA NIGRIFRONS* (Spix).

Rio Tocantins.

164. *CHELIDOPTERA TENEBROSA* (Pall.).

Para.

"Abundant on the Lower Amazons and Rio Negro."—A. W.

Fam. TROGONIDÆ.

+165. *TROGON VIRIDIS*, Linn.

Capim River.

+166. *TROGON MELANURUS*, Sw.

Para.

167. *PHAROMACRUS PAVONINUS* (Spix).

Trogon pavoninus, Spix, Av. Bras. i. p. 47, t. 35.

Barra do Rio Negro.

"Found at Barra, on the left bank of the river."—A. W.

Fam. CAPRIMULGIDÆ.

168. *PODAGER NACUNDA* (Vieill.).

Capim River.

169. *CHORDEILES RUPESTRIS* (Spix).

"Found sitting on sand and rocks in an island on the Upper Rio Negro."—A. W.

170. *LUROCALIS NATTERERI* (Temm.).

Para. Intermediate in size between some skins of this species and *L. gouldi*. Long. tota 8·3, alæ 7·4, caudæ 3·4.

171. *ANTROSTOMUS NIGRESCENS* (Cab.).

Para.

172. *HYDROPSALIS TRIFURCATA* (Natt.); Sclater, P. Z. S. 1866, p. 141.

Rio Tocantins.

Fam. TROCHILIDÆ.

173. *EUPETOMENA MACRURA* (Gm.).

Island of Mexiana.

174. *CAMPYLOPTERUS LARGIPENNIS* (Bodd.).

Rio Negro. Agrees with Cayenne specimens.

175. *CAMPYLOPTERUS OBSCURUS*, Gould, Mon. Troch. ii. t. 49.

Para, three examples, showing that this is the Lower-Amazonian representative of the preceding species.

176. *TOPAZA PYRA*.

"Occurs on the Upper Rio Negro, where it is shot by the Indians, and its feathers are used in making feather ornaments."—A. W.

+ 177. *LAMPORNIS MANGO* (Linn.).

Mexiana; and Cobati, Rio Negro.

178. *LAMPORNIS GRAMINEUS* (Gm.).

Mexiana.

179. *THALURANIA FURCATOIDES*, Gould, Intr. Mon. Troch. p. 77.

Para.

Mr. Gould separates this bird from the *T. furcata* of Cayenne; but the distinctive characters are not very appreciable.

+ 180. *FLORISUGA MELLIVORA* (Linn.).

Para; and Cobati, Rio Negro.

181. *HELIOTHRIX AURITUS* (Gm.).

Guia, Rio Negro.

+ 182. *POLYTMUS LEUCORRHOUS*, Gould, MS.

A skin of this undescribed species in Mr. Gould's collection was obtained by Mr. Wallace at Cobati, Rio Negro. The bird very nearly resembles *P. viridissimus*, of Cayenne, but has the crissum *white*.

183. *AGYRTRIA MILLERI* (Bourc.).

Cobati, Rio Negro.

184. *AGYRTRIA MACULATA* (Vieill.).

Mexiana.

185. *HYLOCHARIS SAPPHIRINA* (Gm.).

Para.

186. *EUCEPHALA CÆRULEA* (Vieill.).

Para.

187. *EUCEPHALA HYPOCYANEA*, Gould, P. Z. S. 1860, p. 306; Mon. Troch. v. t. 334.

Cobati, Rio Negro.

A female, apparently of this species, and, if such be the case, of

great interest as indicating the correct locality of this Humming-bird, which was unknown to Mr. Gould. The under surface of the present specimen is sordid white, with slight marginations of bluish green in some of the feathers. The upper tail-coverts retain the characteristic bronzy colouring of the male bird.

Fam. CUCULIDÆ.

†188. CROTOPHAGA ANI, Linn.

Mexiana.

189. CROTOPHAGA MAJOR, Linn.

Capim River.

190. GUIRA PIRIRIGUA (Vieill.).

Mexiana.

†191. DIPLOPTERUS NÆVIUS (Linn.).

Mexiana.

192. PIAYA CAYANA (Linn.).

Para.

†193. PIAYA MINUTA (Vieill.).

Para.

Fam. OPISTHOCOMIDÆ.

194. OPISTHOCOMUS CRISTATUS.

Para.

“This bird abounds on the low shores of the river between Para and the Tocantins. It is found in small flocks of from ten to twenty individuals, and feeds on the leaves of the *Arum arboreum*, with which its stomach is generally loaded. This gives it a very disagreeable odour. Notwithstanding its large wings, its flight is slow and laboured. It is never seen on the ground or in high trees, but principally sitting upon the *Arum*. When alarmed it throws up its crest exactly in the same manner as the Guira.”—A. W.

Fam. RAMPHASTIDÆ.

195. RAMPHASTOS TOCO.

“Obtained in Mexiana, but not known at Para.”—A. W.

196. RAMPHASTOS ERYTHORHYNCHUS, Gm.

Para.

197. RAMPHASTOS OSCULANS, Gould.

Upper Rio Negro.

198. RAMPHASTOS ARIEL, Vig.

Para.

This is one of the few types of the Brazilian forest-region that intrude into the district of Para. On the north bank of the Amazons it is replaced by the following species:—

199. *RAMPHASTOS VITELLINUS*, Licht.

North bank of the Lower Amazons.

200. *PTEROGLOSSUS ARAÇARI* (Linn.).

Capim River.

201. *PTEROGLOSSUS INSCRIPTUS*, Sw.

Para.

202. *PTEROGLOSSUS BITORQUATUS*, Vig.

Para.

203. *SELENIDERA GOULDI*, Natt.

Para, August, 1848.

204. *SELENIDERA NATTERERI*, Gould.

Upper Rio Negro. See Gould's 'Monograph,' ed. 2. t. 34.

Fam. CAPITONIDÆ.

205. *CAPITO AMAZONICUS*, Deville et Des Murs; Sclater, Ibis, 1861, p. 186.

Guia, Rio Negro.

Fam. PICIDÆ.

206. *CAMPEPHILUS ALBIROSTRIS* (Spix).

Rio Tocantins.

207. *CAMPEPHILUS TRACHELOPYRUS*, Malh.

Capim River.

+208. *DRYOCOPUS LINEATUS* (Linn.).

Para.

209. *CELEUS JUMANA*, Spix.

Picus jumana, Spix, Av. Bras. i. p. 57, t. 47.

Para.

Specimens of both sexes of this species, which is very distinct from *Celeus citreopygius* (Bp. MS.) of the Upper Amazons, the latter being darker in colouring, particularly on the flanks, and having *no cross bands* on the primaries or secondaries. Malherbe considers them local varieties; but they are in fact well-marked species. The nearest ally of *Celeus jumana* is *C. cinnamomeus* of Cayenne. Sclater's bird referred to *C. jumana* (Cat. A. B. p. 336) is *C. citreopygius*, Bp.

210. *CELEUS MULTIFASCIATUS*.

Celepicus multifasciatus, Malh. Mon. Pic. ii. p. 16, t. 50. f. 4, 5.

One example from the "Amazons," probably the lower part of the river, appears to be a male of this species, as determined by Malherbe. It is a close ally of *C. rufus* of Cayenne, but recognizable by the dark rufous cap, and the black longitudinal lines on the nape, sides of head, and throat: in *Celeus rufus* the markings are transverse.

211. CHLORONERPES TEPHRODOPS (Wagl.).

Island of Mexiana.

212. CHLORONERPES HÆMATOSTIGMA, Malh.

River Tocantins.

213. CHLORONERPES FLAVIGULARIS (Bodd.).

Para.

214. MELANERPES CRUENTATUS, Bodd.

Barra do Rio Negro.

Fam. PSITTACIDÆ.

215. ARA ARARAUNA (Linn.).

Mexiana.

†216. ARA MACAO (Linn.).

Mexiana.

217. ARA HYACINTHINA.

This species is not found in the Amazons valley proper, and appears to be restricted to the slightly elevated plateau south of the Lower Amazons. It was seen about 100 miles up the Tocantins*, and again about the same distance up the Tapajos†, where specimens were procured by Mr. Bates.

218. ARA NOBILIS (Linn.).

Para.

219. CONURUS LUTEUS, Bodd.

Para.

Very rare in the neighbourhood of Para, where it appears once a year, when a particular fruit is ripe. I only saw one flock in one particular tree, and obtained four or five specimens out of it.

220. CONURUS AUREUS (Gm.).

Island of Mexiana.

221. CONURUS ÆRUGINOSUS (Linn.).

Conurus chrysoGENYS, Mass. et Souanc. Rev. Zool. 1854, p. 72.

A skin of a *Conurus*, collected by Mr. Wallace at S^{ra} Isabel on the

* See Bates's Amazons, vol. i. p. 133: Wallace's Travels, p. 74.

† Bates, *l. c.* p. 139.

Rio Negro, exactly agrees with Sclater's specimen, also from the Rio Negro, called *C. chrysogenys* in his 'Catalogue,' and with the description of Souancé. We are not yet prepared to follow M. Finsch in uniting under *C. pertinax* the species named *C. æruginosus*, *C. chrysogenys*,[†] *C. xantholæmus*,[†] *C. ocellaris*, and *C. chrysophrys*; but his remarks on this subject (Papageien, i. p. 506) are eminently worthy of attention. *Conurus xantholæmus* and *C. æruginosus* (so labelled), now living side by side in the Society's Gardens, are very distinct species, and certainly not to be confounded together.

222. *CONURUS PERLATUS*.

Aratinga perlata, Spix, Av. Bras. i. p. 35, t. 20. f. 1.

Sittace lepida, Wagl.

Conurus lepidus, Finsch, Pap. i. p. 543.

Capim River.

We see no reason for rejecting Spix's name for this species in favour of Illiger's MS. term subsequently adopted by Wagler.

223. *BROTOGERYS VIRESCENS* (Gm.).

Conurus virescens, Scl. Cat. A. B. p. 351.

Mexiana.

"Excessively abundant in the island, in flocks of several hundreds."

—A. W.

224. *BROTOGERYS NOTATUS* (Bodd.); Pl. Enl. 456. f. 2.

Brotogerys tuipara et *B. notatus*, Sclater, Cat. A. B. p. 352.

Para.

"Almost as abundant at Para as the latter species in Mexiana, and also found in flocks."—A. W.

225. *CHRYSOTIS FARINOSA* (Bodd.).

Rio Tocantins.

† 226. *PIONUS MENSTRUUS* (Linn.).

Rio Tocantins.

227. *PIONUS VIOLACEUS* (Bodd.).

Para.

228. *CAICA MELANOCEPHALA* (Linn.).

Upper Rio Negro.

"Found abundantly up the Rio Uaupes."—A. W.

229. *CAICA VULTURINA*, Kuhl.

Para.

"Very rare in the neighbourhood of Para. I only procured one specimen."—A. W.

230. *DEROPTYUS ACCIPITRINUS*.

Rio Uaupes; Upper Rio Negro.

231. *UROCHROMA PURPURATA* (Gm.).

Capim River.

Fam. VULTURIDÆ.

+232. *GYPARCHUS PAPA* (Linn.).

The King-Vulture is found in the forests all along the Lower Amazons.

+233. *CATHARTES AURA*.+234. *CATHARTES ATRATUS*.

Mr. Wallace states that both these species are found at Para. From the Upper Amazons Mr. Wallace has a specimen of what appears to be *C. urubitinga*, Natt. (v. Pelzeln, Sitz. Ak. Wien, xlv. p. 7), obtained on the south bank about 100 miles above the Rio Negro.

Fam. FALCONIDÆ.

+235. *IBYCTER AMERICANUS* (Bodd.).

Para.

236. *IBYCTER ATER* (Vieill.).

Para.

237. *POLYBORUS BRASILIENSIS* (Gm.).

Mexiana.

+238. *MILVAGO CHIMACHIMA* (Vieill.).

Mexiana and Barra.

+239. *URUBITINGA ZONURA* (Shaw).

Mexiana.

+240. *URUBITINGA MERIDIONALIS* (Lath.).

Mexiana.

+241. *URUBITINGA NIGRICOLLIS* (Lath.).

Mexiana.

+242. *ASTURINA NITIDA* (Lath.).

North side of the Amazons.

243. *ASTURINA MAGNIROSTRIS* (Gm.).

Mexiana.

244. *LEUCOPTERNIS SUPERCILIARIS*.

Leucopternis kuhli, Bp. Consp. i. p. 19 (1850).

Buteo kaupi, G. R. Gray in Mus. Brit., unde *Lecopternis kaupi*, Bp. Rev. Zool. 1850, p. 533.

Leucopternis superciliaris, Pelzeln, Sitz. Ak. Wien, xlv. p. 10.

Para, one example, killed in December 1849.

The only description of this well-marked species is that given by Von Pelzeln; and we feel bound, therefore, to adopt his name for it, in preference to either of Bonaparte's, which have no sufficient diagnosis attached to them. We have compared Mr. Wallace's specimens with *Buteo kaupi* of the British Museum (of which there are two specimens in the collection) and find them identical.

+ 245. *SPIZAËTUS TYRANNUS* (Max.).

Capim River.

+ 246. *HERPETOTHERES CACHINNANS* (Linn.).

Mexiana.

247. *MICRASTUR GILVICOLLIS* (Vieill.).

Para.

+ 248. *HYPOTRIORCHIS FEMORALIS* (Temm.).

Mexiana.

+ 249. *HYPOTRIORCHIS RUFIGULARIS* (Daud.).

Rio Tocantins.

+ 250. *CYMINDIS CAYANENSIS* (Gm.).

Amazons.

+ 251. *ICTINIA PLUMBEA* (Gm.).

Para.

Fam. STRIGIDÆ.

+ 252. *SYRNIUM PERSPICILLATUM* (Lath.).

Amazons, north side.

+ 253. *SYRNIUM ZONOCERCUM*, G. R. Gray, MS.

Para, May 1849. Agreeing with the Venezuelan birds thus designated in the British Museum, but not with any described species that we are acquainted with.

254. *LOPHOSTRIX CRISTATA* (Daud.).

Para.

+ 255. *SCOPS CHOLIBA* (Vieill.).

Mexiana.

Fam. COLUMBIDÆ.

+ 256. *COLUMBA SPECIOSA* (Gm.).

Para.

+ 257. *COLUMBA VINACEA* (Temm.).

Capim River.

+ 258. *COLUMBA RUFINA* (Temm.).

Mexiana.

259. *ZENAIDA MACULATA* (Vieill.); Bp. Consp. ii. p. 82.

Mexiana.

+ 260. *CHAMÆPELIA PASSERINA* (Linn.).

Para.

261. *CHAMÆPELIA TALPACOTI* (Temm.); Burm. S. U. iii. p. 297.

Rio Tocantins.

+ 262. *GEOTRYGON MONTANA* (Linn.); Bp. Consp. ii. p. 72.

Upper Rio Negro and Para.

263. *LEPTOPTILA RUFAXILLA*, Bp. Consp. ii. p. 73.

Mexiana.

Fam. TETRAONIDÆ.

264. *ODONTOPHORUS GUIANENSIS* (Gm.).In Salvin's collection, from the Capim River (*Wallace*, June 1849).

Fam. CHARADRIIDÆ.

+ 265. *HOPLOPTERUS CAYANUS* (Lath.).

South bank of the Amazons.

266. *VANELLUS CAYENNENSIS*, Gm.

Mexiana.

267. *ÆGIALITES SEMIPALMATUS*, Bp.; Baird, B. of N. A. p. 694; Schlegel, Mus. des P.-B. *Cursores*, p. 30.*Charadrius brevirostris*, Max. Beitr. iv. p. 769; Schomb. Guian. iii. p. 750; Burm. S. U. iii. p. 359.

Mexiana.

+ 268. *ÆGIALITES COLLARIS* (Vieill.).*Charadrius azaræ*, Burm. S. U. iii. p. 360.

Mexiana and Rio Tocantins.

Fam. SCOLOPACIDÆ.

+ 269. *HIMANTOPUS NIGRICOLLIS* (Vieill.).

Mexiana.

270. *TRINGA MINUTILLA* (Vieill.); Schlegel, Mus. des P.-B. *Scolopaces*, p. 48.

Mexiana.

271. *TRINGA BONAPARTII*, Schlegel.

Rio Tocantins.

272. *EREUNETES PETRIFICATUS*, Ill. ; Baird, B. N. A. p. 724.
Mexiana.

273. *GAMBETTA FLAVIPES*, Gm.
Mexiana.

274. *RHYACOPHILUS SOLITARIUS* (Wils.).
Mexiana.

275. *TRINGOIDES MACULARIUS* (Linn.).
Mexiana.

Fam. RALLIDÆ.

276. *PORZANA CAYENNENSIS* (Linn.).
Para.

277. *PORPHYRIO PARVUS* (Bodd.).
Amazons.

278. *PORPHYRIO MARTINICUS* (Linn.).
Amazons.

Fam. PSOPHIIDÆ.

279. *PSOPHIA OCHROPTERA*, Pelzeln.
Rio Negro (*Wallace in Mus. Brit.*).

Mr. Wallace has given some interesting remarks on the geographical distribution of the different species of Trumpeter in his 'Travels' (p. 473); but, from his specimens having been lost, he has perhaps not quite accurately laid down the boundaries between them. Von Pelzeln's paper on the birds of this group collected by Natterer* gives further details upon the subject, and enables us to indicate what we believe to be the probable ranges of the known species, which appear to be separated by rivers.

a. *Species dorso cinereo aut albo.*

(1) *Ps. crepitans* (Linn.). British Guiana, extending inwards as far as the Rio Negro.

(2) *Ps. ochroptera*, Pelzeln, *l. c.* p. 371. Upper Rio Negro, probably only on the right bank. Barcellos (*Natt.*).

(3) *Ps. leucoptera*, Spix. South or right bank of the Amazons above the Madeira. Ega, Coari, and San Paolo (*Wallace*).

b. *Species dorso viridi.*

(4) *Ps. viridis* (Spix). South or right bank of the Amazons below the Madeira, and extending up the right bank of the Madeira to the Rio Mamoré (*Natterer*). Villa Nova (*Spix*).

(5) *Ps. obscura*, Pelzeln. Right bank of the Amazon near Para. The dividing river between this and the preceding species is not known; it may be the Tocantins, the Xingu, or the Tapajós.

* Sitz. Ak. Wien, xxiv. p. 371 *et seq.* (1857).

Fam. LARIDÆ.

280. STERNA MAGNIROSTRIS, Licht.

Mexiana.

281. STERNA SUPERCILIARIS (Vieill.).

Rio Tocantins.

+ 282. RHYNCHOPS MELANURA, Sw.

Mexiana.

Having thus concluded our list of species, we proceed to consider what conclusions can be drawn from it as to the general character of the avifauna of the localities whence they are derived. Of the whole number of 282 species, 48 are from the Rio Negro, and, as far as our information goes, are not found in the Lower Amazons district. From this part of the series, presenting us as it does with such an insignificant portion of the whole ornis, it would be useless to attempt to draw any further conclusion than that the large majority of the species recorded from this region are Guianan forms. Of the 48 Rio Negro species, 37 are certainly likewise found in Guiana. The remaining 11 are believed to be either peculiar to the Rio Negro or intruders from the Upper Amazonian district. These are—

- | | |
|-------------------------------------|---------------------------------|
| 1. <i>Ramphocælus nigrigularis.</i> | 7. <i>Chordeiles rupestris.</i> |
| 2. <i>Pithys leucaspis.</i> | 8. <i>Topaza pyra.</i> |
| 3. <i>Pipra filicauda.</i> | 9. <i>Eucephala hypocyanea.</i> |
| 4. — <i>cyaneocapilla.</i> | 10. <i>Capito amazonicus.</i> |
| 5. <i>Cephalopterus ornatus.</i> | 11. <i>Psophia ochroptera.</i> |
| 6. <i>Pharomacrus pavoninus.</i> | |

But these exceptions weigh little in the balance when we consider the presence on the Rio Negro of such marked Cayenne types as *Gymnoderus fœtidus*, *Gymnocephalus calvus*, *Rupicola crocea*, *Xipholena pompadora*, &c.

Let us now, therefore, turn to the portion of the collection from the vicinity of Para and the Lower Amazons, and see what results can be derived from its examination. The whole number of species obtained in these localities was 242, two of which cannot be satisfactorily determined at present. The remaining 240 may be analyzed as follows:—

1. Species of wide range, belonging to Cayenne, Para, and South-east Brazil	}	96	
2. Species common to Para and Cayenne only, 40 (16 per cent. of whole number); and species ranging west and north-west into the Upper Amazons, Venezuela, New Granada, and Central America, 48; together ...			
3. Species common to Para and South-east Brazil	} 144	15 (about 10 per cent.)	
4. Species common to Para and Upper Amazons...			18 (about 12 per cent.)
5. Species found in Para alone			23 (about 17 per cent.)
		240	

The 96 wide-ranging species, which amount to about 40 per cent. of the whole, comprise members of all orders, but are mostly

PROC. ZOOL. SOC.—1867, No. XXXVIII.

Accipitres, Grallæ, &c., which are mainly birds of wide distribution, many of them extending over the whole neotropical region. Having deducted these 96 we have left a residuum of 144 of more local character as regards their range, an examination of which will at once solve the question to which of the great zoological divisions of South America the district of the Lower Amazons pertains.

Of these 144 species not less than 88 (or 61 per cent.) are identical with species found in Cayenne, either belonging to forms peculiar to the Guianan province, or, if occupants of a more extended area, ranging westward and north-westward into the Upper Amazons or Venezuela, New Granada, and Central America, but not extending southward into the wood-region of South-eastern Brazil. Not only is this Guianan element noticeable for its numerical extent in species, but also as exhibiting such well-marked forms as *Pithys*, *Phœnicocercus*, *Hæmatoderus*, *Querula*, *Urogalba*, *Jacamerops*, *Opisthocomus*, and *Psophia*, all of which are quite foreign to the wood-region of South-eastern Brazil. The Guianan facies of the Para district is further shown by an examination of the instances in which the two provinces of Guiana and South-eastern Brazil are occupied by corresponding representative forms. In almost every case the Para form, when ascertained, is found to belong to the Guianan and not to the Brazilian species. In the subjoined table, of fourteen instances of this sort, it will be noted that there is only one positive exception to this rule. In two other cases both Guianan and Brazilian species occur within the Para district, and the River Amazons appears to form the boundary between them, the Guianan species being found on the north bank and the Brazilian on the south*.

CAYENNE.	PARA DISTRICT.	BRAZIL.
1. <i>G. æquinoctialis</i> ..	<i>Geothlypis æquinoctialis</i>	<i>G. velata</i> .
2. <i>C. guianensis</i>	<i>Cyclorhis guianensis</i>	<i>C. oebrocephala</i> .
3. <i>T. episcopus</i>	<i>Tanager episcopus</i>	<i>T. cyanoptera</i> .
4. <i>P. viridis</i>	<i>Pitylus viridis</i>	<i>P. brasiliensis</i> .
5. <i>E. macrurus</i>	<i>Emberizoides macrurus</i> , <i>var.</i> ..	<i>E. sphenurus</i> .
6. <i>I. cayanensis</i>	<i>Icterus cayauensis</i>	<i>I. tibialis</i> .
7. <i>C. anthoides</i>	<i>Corythopsis anthoides</i>	<i>C. calcarata</i> .
8. <i>F. pica</i>	<i>Fluvicola albiventris</i>	<i>F. albiventris</i> .
9. <i>E. olivus</i>	<i>Empidochanes olivus</i>	<i>E. fuscatus</i> .
10. <i>G. viridis</i>	{ <i>Galbula viridis</i>	} <i>G. rufo-viridis</i> .
	{ — <i>rufo-viridis</i>	
11. <i>C. tenebrosa</i>	<i>Chelidoptera tenebrosa</i>	<i>C. brasiliensis</i> .
12. <i>P. araçari</i>	<i>Pteroglossus araçari</i>	<i>P. wiedi</i> .
13. <i>R. vitellinus</i>	{ <i>Ramphastos ariel</i>	} <i>R. ariel</i> .
	{ — <i>vitellinus</i>	
14. <i>C. flavigularis</i>	<i>Chloronerpes flavigularis</i>	<i>C. erythropis</i> .

* The River Amazon probably divides the range of the following species:—

- Pipra flavicollis* from *P. aureola*.
Xiphobena lamellipennis from *X. pompadora*.
Galbula rufo-viridis from *G. viridis*.
Urogalba amazonum from *U. paradisea*.
Bucco hyperbrychus from *B. macrorhynchus*.
Thalurania furcataoides from *T. furcata*.
Campylopterus obscurus from *C. lazarini*.
Ramphastos vitellinus from *R. ariel*.
Psophia obscura from *P. crepitans*.

The purely Brazilian forms which occur in the Para district and are not known in Guiana are only 15 in number, or less than 10 per cent. of the whole. A similar foreign element appears to have intruded itself from the Upper Amazons, 18 or about 12 per cent. of species hitherto only known as inhabitants of the Upper Amazonian district occurring near Para. It is worth noticing, however, that about half these were procured on the Capim River or Tocantins, where the Peruvian element would appear to be stronger than in the vicinity of Para*.

There remain only to be considered the species peculiar to the Para district as far as hitherto known, which amount to about 23, or 17 per cent. of the whole, after excluding the species of wide range. As shown by the subjoined table, these Para species are not unfrequently representatives of allied forms in Cayenne, in some cases so closely allied as to be hardly distinguishable (e. g. *Urogalba amazonum*, *Thalurania furcataoides*), in others so well marked as to allow no question as to their specific validity, such as *Xipholena lamellipennis* and *Ceteus jumana*.

Species peculiar to the district of Para.

- | | |
|-------------------------------------|--|
| 1. <i>Hylophilus rubrifrons.</i> | 13. <i>Bucco hyperrhynchus.</i> |
| 2. — <i>semicinereus.</i> | 14. <i>Campylopterus obscurus.</i> |
| 3. <i>Saltator mutus.</i> | 15. <i>Thalurania furcataoides.</i> |
| 4. <i>Dendroornis eytoni.</i> | 16. <i>Pteroglossus bitorquatus.</i> |
| 5. <i>Thamnophilus luctuosus.</i> | 17. <i>Ceteus jumana.</i> |
| 6. — <i>nigrocinereus.</i> | 18. — <i>multifasciatus.</i> |
| 7. <i>Myrmotherula brevicauda.</i> | 19. <i>Ara hyacinthina.</i> |
| 8. <i>Heteropelma wallacii.</i> | 20. <i>Conurus perlatus.</i> |
| 9. <i>Pipra flavicollis.</i> | 21. <i>Brotogerys virescens.</i> |
| 10. <i>Xipholena lamellipennis.</i> | 22. <i>Caica vulturina.</i> |
| 11. <i>Galbula cyaneicollis.</i> | 23. <i>Leucopternis superciliaris.</i> |
| 12. <i>Urogalba amazonum.</i> | |

* In the subjoined list of species, registered from the Capim River and Tocantins, the Upper Amazonian forms are printed in italics:—

CAPIM RIVER.

Calliste boliviana.
Arremon silens.
Pitylus erythromelas.
Glyphorhynchus cuneatus.
Thamnophilus amazonicus.
Myrmotherula axillaris.
 — *brevicauda.*
 — *harraxwelli.*
Ramphocœnis melamurus.
Myiobius erythrurus.
Querula eruenta.
Galbula cyaneicollis.
Bucco tamatia, var.
Podager naumda.
Pteroglossus wiedi.
Campephilus trachelopyrus.
Urochroa purpurata.

TOCANTINS.

Progne tapera.
Tachyphonus melilæucus.
 + *Spermophila lineola.*
Leptoxara cinamomea.
Thamnophilus luctuosus.
 — *nigrocinereus.*
Formicivora grisea.
Iodopleura isabelle.
Pipra fasciata.
Galbula rufo-viridis.
Brachygalla inornata.
Monasa nigrifrons.
Hydropsalis trifurcata.
Campephilus albirostris.
Chloronerpes hematostigma.
Chrysotis farinosa.
Pionus menstruus.

It seems therefore, from what has been above stated, to be manifest that the mighty Amazons, though it may in some cases, as shown by Mr. Wallace and as noted above, separate allied species, does not constitute the true southern boundary of the Guianan avifauna, which is so remarkably distinct from that of the wood-region of South-eastern Brazil. To arrive at this boundary we must proceed further southwards nearly to the banks of the River Parnaiba, where the Amazonian wood-region terminates, and the high open country which forms the *campos* of Inner Brazil debouches upon the Atlantic. It is obvious that the wood-inhabiting species which form so large a proportion of the neotropical avifauna could never pass a barrier of this character, which offers as complete a physical obstacle to their passage as would a tract of sea of similar extent. We can therefore fully agree with the conclusions corresponding to those arrived at by Mr. Bates in his elaborate "Memoir on the Diurnal Lepidoptera of the Amazon-valley"* , namely :—

(1) That the Para district belongs to the same zoological province as the Guianas, and has received its bird-population mainly from that quarter.

(2) That in certain cases (amounting to about 17 per cent. of the whole number of species after excluding those of general distribution) variation has taken place, which has resulted in the production of new specific forms of greater or less degrees of distinctness.

(3) That in some of these cases the River Amazons has operated as a physical barrier, and has isolated these derivative forms from their Guianan allies, thereby leading to an accumulation of variations, which have ultimately resulted in the specific differences now observable.

2. Note on a New Species or Variety of Lemur in the Society's Gardens. By Dr. J. E. GRAY, F.R.S., V.P.Z.S., &c.

(Plate XXXI.)

PROSIMIA FLAVIFRONS, sp. nov.

Fur soft, silky, bright pale red brown; hinder part of the back rather darker. Nose and feet dark red brown. Circumference of the face, side of the chin, the throat, and chest pale reddish yellow. Iris of eyes grey. Male.

Hab. Madagascar; Zoological Society's Gardens, May 15, 1867.

This is one of the Lemurs which differs from the other described species only in a variation in the shade and disposition of the colours. Whether these are varieties or distinct species must be left to be decided by those who can study them in their native haunts. The one here described is a full-grown male. The end of the tail in the living specimen is imperfect.

* Trans. Entom. Soc. n. s. vol. v. pp. 223, 335.

3. Notes on the Variegated or Yellow-tailed Rats of Australasia. By Dr. J. E. GRAY, F.R.S., V.P.Z.S., F.L.S., &c.

At the Meeting of this Society for May 8, 1866, I described a large Rat with a black and yellow tail from North Australia, under the name of *Mus macropus**. We have since received another specimen of this Rat from Cape York; and Mr. Gerard Krefft has informed me in a note that it is, evidently the animal which he has proposed to call *Hapalotis caudimaculata* in a paper on Australian animals recently sent to this Society†.

I may add to the former description that the cutting-teeth are bright orange-yellow in front; the front side of the upper one is broad, flat, and smooth, with a narrow, slightly shelving margin on the outer side of each tooth,—and of the lower one narrower, convex, with a single, subcentral, longitudinal, slightly impressed groove.

The fur of this Rat is moderately soft, like that of *Mus rattus*, the longer hairs being rather rigid and bristle-like.

The British Museum has lately received an adult and a young specimen of this Rat in spirits from Cape York. The feet of the young specimen are as white, and, in proportion to the size of the specimen, as thick and fleshy as those of the adult.

The groove in the front of the lower cutting-teeth, the large size and pale colouring of the feet, and the nakedness of the scaly tail seem to indicate a peculiar section in the Rats, which may be called *Gymnomys*.

In the description above quoted I observed that there were two other species of Rat in the British Museum, which had the tails more or less varied with yellow, and that one of them was from North Australia, but that it differed from *M. macropus* in having smaller feet. I might have added that it also differed from *M. macropus* from Cape York in being a spiny-furred Rat.

This Rat also belongs to the section *Gymnomys*. It differs from *M. macropus* in the small size of the cutting-teeth and the feet, and there is also a difference in the colouring of the fur. It was brought from Menado, North Celebes, by Mr. Wallace in 1859.

This specimen might at first be regarded as the young of *M. macropus*; but the size and colour of the feet, as well as the great difference in the fur, at once set at rest such a theory. The hair of the Celebes Rat is much softer and uniform in kind than that of the Rat from North Australia, which is much more rigid, with abundance of elongate black cylindrical hairs; and the shorter fur is made up of soft slender crisp hairs, intermixed with a number of very narrow, slender, linear, rigid, white, flat, channelled hairs.

* P. Z. S. 1866, p. 221.

† [See Mr. Krefft's paper, P. Z. S. 1867, p. 316. The same animal has been more recently described and figured by our Foreign Member Dr. W. Peters under the name *Uromys macropus* (Monatsb. Ac. Berlin, June 1867).—P. L. S.]

MUS (GYMNOMYS) CELEBENSIS.

Grey brown, with rather rigid blackish longer hairs, most abundant on the middle of the back and rump; sides of the nose, cheeks, chin, middle of the throat, chest, underside of the body, and legs pure white, divided from the dark colour of the upper part of the body by a well-marked line; tail elongate, basal third blackish, the rest yellow; feet slender, brown, covered with short soft hair above; ears rather broad, naked. Length 10 inches, of tail 11 inches, of hind foot about 1 inch 10 lines. (Female.)

Hab. Menado (North Celebes), 1859 (*Wallace*).

Mr. Wallace obtained at Sadong, in Borneo, in 1855, a female Rat similar to the above in size, but varied with yellow and black hairs above, whitish yellow below, and with an entirely black tail. The cutting-teeth are yellow and smooth; the lower one without any indication of a longitudinal groove.

MUS XANTHURA. (Yellow-tailed Forest-Rat.)

Fur above yellow grey brown, yellow- and black-washed, especially on the hinder part of the back; sides of nose, cheeks, chin, throat, chest, underside of body, and limbs white; the longer hairs of the back black, rather rigid, those of the hinder part of the back much longer, blacker, and projecting beyond the base of the tail; the hair of the sides of the vent longer, yellow, with some stiffer longer black hairs intermixed; feet dark brown, hairy above; tail elongate, nearly naked, only with a few short hairs near the tip, black at the base for about one-third of its length, the rest yellow; upper cutting-teeth flat and yellow in front; the lower very narrow, rather compressed, white, smooth, without any indication of a central longitudinal groove.

Hab. North Celebes; Tondano (*Wallace*), 1859, female.

Mr. Wallace observes, "This is a forest-rat, eats rice; was taken at an elevation of 3600 feet." The long black hair over the rump has an inclination to form two dark streaks, each ending in a black point on the sides of the base of the tail.

ACANTHOMYS LEUCOPUS.

Grey brown above; sides of nose, cheeks, chin, underside of body, and legs white; feet thick, large, white, slightly covered with short close-pressed white hairs; tail elongate, naked, black, with two or more yellow rings. The fur of the back with abundant flat, channelled, spinous hairs, and with a few scattered, elongate, black, cylindrical bristles. The fur of the underside with similar spinous hairs, those on the sides and back being often dark-tipped. The cutting-teeth are yellow and quite smooth in front; the upper ones are flat; the lower ones rather narrow and rounded in front. The ears are nearly naked. The whiskers moderate, slender, flexible, weak. Eyes small.

Hab. North Australia; Cape York (*Mr. Damen*).

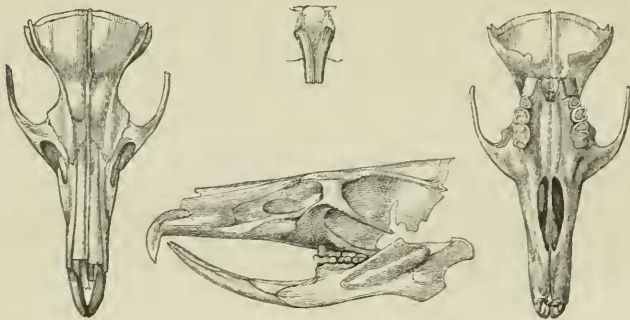
There is an adult female of this species, with four lateral ventral

and two pectoral teats well developed, and a young female in the Museum Collection.

ECHIOTHRIX.

Head elongate. Nose elongate, compressed, concave on the sides; apex produced, acute; underside with short close bristles and a small central groove; nostrils apical, lateral. Fur soft, crisp, with abundance of bristles, flat and channelled at the base, cylindrical and tapering at the tip; those of the under part of the body being white and more slender. Ears nakedish. Feet covered with short adpressed hairs. Tail elongate, cylindrical, nearly bald, with rings of square scales. Skull elongate; face very much produced, elongate, compressed; palate rounded in front, flat behind, with an elongated aperture in the middle of its length, more than twice as long as broad; the hinder part of palate with three equally long longitudinal grooves; nose flat above; nasal bones very long, slender. Cutting-teeth white; upper short, with two well-marked subcentral longitudinal grooves; lower elongated, arched, rather compressed, rounded and smooth in front. Grinders $\frac{3-3}{3-3}$, moderate-sized; the front much the largest; the hinder smallest and subcircular; the front upper rounded on the inner, and with two folds on the outer side; the second upper with one fold on the outer side, the lower front with a slight subcentral fold on the inner side. Crowns of the teeth flat; the front upper with two and the others with a single cross ridge, less distinctly marked in the hinder teeth.

Hab. Australia.



Echiothrix leucura.

The skull is very much longer and more slender than in any species of *Mus* or of *Muridæ* in the Museum Collection. The face is very slender, compressed, flat on the sides and above. The fissure on the side of the nose from the base of the infraorbital foramen is short and small, compared with those in the typical *Muridæ*. The grinders are nearly erect; the crowns of the grinders are worn and concave between the ridges of the enamel.

ECHIOTHRIX LEUCURA.

Fur dark grey brown, varied with black-tipped hairs on the back and sides; sides of nose, cheeks, throat, chest, and underside of limbs white; feet moderate, covered above with dark-brown hair; tail yellow, black at the base; cutting-teeth white; whiskers long, black, rather rigid. Length of body and head $9\frac{1}{2}$ inches; tail imperfect; hind feet about 2 inches.

Hab. Australia; British Museum, male? Tail imperfect.

4. Note on the Eggs of the Australian Stilt-Plover (*Himantopus leucocephalus*). By E. P. RAMSAY, C.M.Z.S.

As nothing seems to have been published upon the nidification of this fine species, I beg leave to offer a few remarks upon the subject. The Stilted Plover must be considered rather a scarce than a rare bird in New South Wales, its visits being few and far between. When it does come, however, which is usually in some very dry or remarkably wet season, it appears in great numbers and in all stages of plumage. In 1865 large flocks arrived, in company with the Straw-necked and White Ibises (*Geronticus spinicollis* and *Threskiornis strictipennis*), and took up their abode in the lagoons and swamps in the neighbourhood of Grafton, on the Clarence River, where, on my visit to that district in September last (1866) all three species were still enjoying themselves.

A few days previously to my arrival in Grafton, a black in the employ of Mr. J. Macgillivray, and a very intelligent collector, discovered a nest of this species containing four eggs, which have been secured for our collection. The nest was a slight structure, consisting merely of a few short pieces of rushes and grass, placed in and around a depression at the foot of a clump of rushes growing near the water's edge of a lagoon in the neighbourhood of South Grafton. The eggs vary slightly in form, two being pyriform, the other two rather long. The ground-colour is of a yellowish olive or light yellowish brown, lighter when freshly taken—in some sparingly, in others thickly blotched and spotted with umber and black, the black spots running together and forming large patches on the thick ends. Length from $1\frac{3}{10}$ inch to $1\frac{7}{10}$ inch; breadth $1\frac{1}{4}$ inch to $1\frac{1}{2}$ inch.

The immature birds have the top and back of the head, back of the neck, and shoulders grey, which parts become black, interspersed with white feathers, before finally reaching the plumage of the adult.

5. On some Points connected with the Anatomy of the Hippopotamus (*Hippopotamus amphibius*). By EDWARDS CRISP, M.D., F.Z.S. &c.

The animal, a part of the anatomy of which I am about to describe, is the only one that has been dissected in this country. In France one or two young Hippopotami at birth have been examined; but the only record I have met with is in the 'Annales des Sciences Naturelles,' 1860, p. 376, "Recherches sur le système sanguin de l'Hippopotame," by the late Professor Gratiolet, a paper I shall have to refer to hereafter. It is probable that other accounts of the anatomy of this animal may exist; but I have not taken much trouble to find them, as I prefer working the matter out in my own way. On a recent visit to Paris I was told by Professor Milne-Edwards, to whom I pointed out the presence of skin-glands and the colic-gland, to be hereafter described, "that the anatomy of the Paris specimen had not been completed." I saw casts of the external muscles of this young animal and of the injected abdominal vessels at the Museum of Comparative Anatomy at the Jardin des Plantes, the latter made, probably, for the purpose of illustrating Gratiolet's paper.

The Hippopotamus I have dissected was burnt to death at the Crystal Palace at the end of last year; its age was fourteen months and a few days, and it weighed about seven or eight cwt. The length from nose to anus was 68 inches; the circumference in the largest part of the body 82 inches, that of the neck behind the ear 44 inches. In consequence of the thickness of its skin, its interior parts were for the most part intact and uninjured. I purchased the dead animal, and had the advantage of dissecting it in my own garden, where I took casts and drawings of all the important parts of its anatomy. The skeleton is also in my possession. One side of the animal was well roasted. I supplied some of my friends with the meat cooked gipsy fashion, and I partook of it several times myself. Its flavour was excellent, and the colour of the flesh was whiter than any veal I have ever seen. In Knight's 'English Cyclopædia of Natural History,' under the article Hippopotamus, is the following:—"With regard to minor details, the flesh of the Wasser-ochs is much esteemed as an article of food." In the first catalogue of the African Museum we read that it is much in request both among the natives and the colonists, and that the epicures of Cape Town do not disdain to use their influence with the country farmers to obtain a preference in the matter of Sea-cow's speck (as the fat which lies immediately under the skin is called when salted and dried). In the animal in question this fat was about $1\frac{1}{2}$ inch in thickness. And let me here make another digression. It has been said that elephants examined in this country are free from fat; but on the last I inspected, a female that died in the Society's Gardens, the fat (of an

oily, liquid nature) was very abundant, but not deposited under the skin as in the Hippopotamus, in the Hogs (*Suidæ*), and in some other animals. Gordon Cumming speaks of the abundance of fat in the inside of many elephants that he killed; and the same remark is made by other travellers. I purposely introduce these questions of food and fat, as some of my hearers (who may not be anatomists) may think a digression of this kind a relief among dry anatomical details.

For the better understanding of the subject, I have placed before the Society drawings, of nearly the natural size, of the organs of all the thoracic and abdominal viscera, as well as casts and preparations by way of illustration.

Time will not allow me to describe all the anatomy of this animal; indeed the stomach alone, if properly studied, might form the subject of a long paper. I shall therefore on the present occasion confine myself to the visceral anatomy, or to such parts of it as I was able to investigate, and to the skin-glands. In my next paper I will remark on the peculiarities of the viscera of the Hippopotamus as compared with those of the other pachyderms.

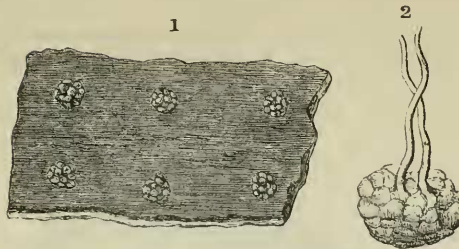
First, of the skin-glands. Mr. Tomes in 1850, soon after the arrival of the first Hippopotamus at the Gardens, read a paper* "On the Blood-coloured Exudation from the Skin of the Hippopotamus." He says, "We have, however, sufficient evidence to warrant the conclusion that the thick tenacious exudation, whether coloured or otherwise, is poured out only during the time the skin is immersed in water, and that it has an especial reference to the aquatic habits of the animal. It appears for the time to convert the surface of the body into a mucous membrane, and then, on the animal leaving the water, to furnish by its inspissation an epidermis. The examination of the structure of the skin will become a subject of great physiological interest."

When I discovered the glands I am about to mention I did not know of Mr. Tomes's paper, my attention having being subsequently directed to it by Mr. Bartlett. Under the skin, about an inch or more below the surface, are numerous small glands of a somewhat rounded form, about 2 lines in diameter and $\frac{1}{2}$ line in thickness; they are generally seated about $\frac{1}{3}$ inch from each other, but in some parts of the body they are further apart. From each generally proceeds two ducts, of a somewhat spiral form; in other instances I have been able to discover only one duct. In the preparation before the Society some of these ducts are visible to the naked eye. The condition of the skin from the application of heat has not enabled me to make so satisfactory a microscopic examination of these organs as I otherwise could have done.

The subjoined sketch which I have made gives a tolerable indication of the character of these glands and their ducts. Figure 1 represents the glands of their natural size, and figure 2 shows the ducts magnified about 10 diameters.

* Proc. Zool. Soc. 1850, p. 160.

Figs. 1 & 2.



Skin-glands of the Hippopotamus.

The following are my notes of the dissection of the viscera :—

On opening the abdomen the mesentery is seen moderately covered with fat ; but the large stomach, which is full of food, occupies the chief part of the abdominal space. The length of the intestinal canal, which is not furnished with a cæcum, is as follows :—

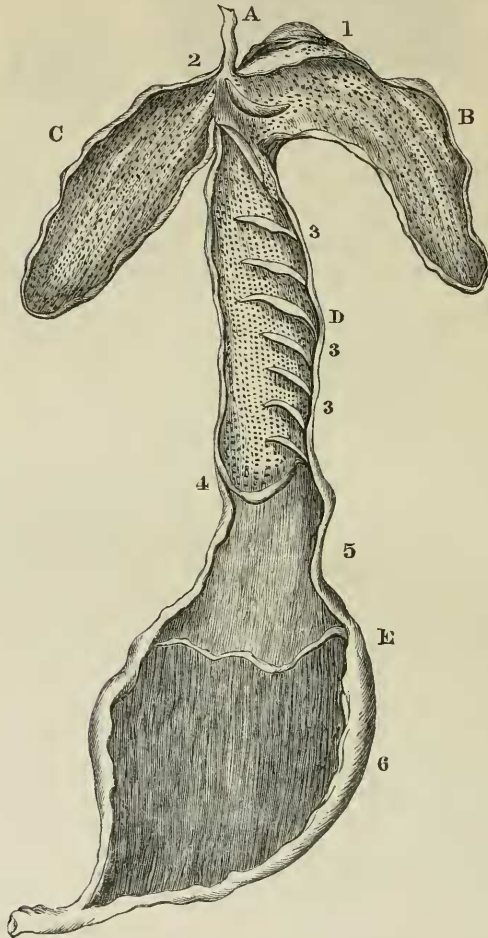
	ft.	in.
Œsophagus	2	10
Stomachs	5	10
Small intestines	99	8
Large intestines	10	2
Total	118	6

The commencement of the large intestines is indicated by a sudden enlargement of the tube, and by the gland to be hereafter noticed.

The stomach (fig. 3, p. 604) has a very peculiar form, and differs materially from that of any other pachyderm, indeed from that of any other animal. The œsophagus (A), the lining membrane of which is smooth, but arranged in slight longitudinal folds, terminates between the first and second stomachs (B, C). These cavities are of about equal size, of a somewhat cylindrical form when distended. The right cavity (B) measures 19 inches in length and 6 at its widest part ; it will contain about three quarts of water. The left cavity (C) is 21 inches in length and 4½ at its widest part ; in capacity it is about the same as the last, as it is thinner and more distensible. Proceeding from between these cavities is the third stomach (D), of a cylindrical form, 20 inches in length and 5 at its widest part ; it holds about three quarts. The fourth and last stomach (E) is of a rounded form, 14 inches in length and 10 at its widest part ; its capacity is about six quarts. The interior of these viscera present a remarkable appearance. The œsophagus (A) appears to enter equally into both the first cavities ; but in the right cavity is a strong muscular slip (1) of a somewhat crescentic shape, extending for about 6 inches along its upper part, the object of which appears to be to direct the food into the left stomach ; but other observers may take a different view of this question. The left cavity is furnished with about sixty-five longitudinal rows of detached papillæ of a rounded form, elevated about a line above the surface, giving somewhat the appearance of

the rumen of a ruminant. The coats of the right stomach are much thicker than those of the left, especially where the before described slip originates. The lining membrane is covered with papillæ, as in the left cavity; but they are thicker set, especially towards the ceso-

Fig. 3.



Stomach.

phageal end. In addition to the thick muscular slip before named there is a large valvular projection below (2) serving to direct the food into the third stomach. At the commencement of the third stomach is a crescentic-shaped muscular valve occupying the right

side only, forming a rounded orifice, which measures about 2 inches in diameter. The third stomach is also lined with small papillæ, some of which, near to the œsophageal extremity, are pointed and resemble those of some of the smaller ruminants. This cavity is furnished with seven valvular slips (3, 3, 3), varying in length from 2 to 4 inches, so as to leave pouch-like projections between; but these, when the stomach is inflated, are seen to be of small size, although in the adult animal their dimensions may be considerable. A long crescentic-shaped valve (4) projects into the large opening between the third and fourth stomachs. The fourth and last stomach (E), like the fourth stomach of a ruminant, is quite smooth; but it possesses no longitudinal folds as seen in the digestive stomach of ruminants; the pyloric valve is of moderate thickness. At the commencement of the fourth stomach, for the space of about 10 square inches, the lining membrane is smooth and white; beyond this it is red and more elevated, so that these portions of the stomach evidently perform a different function.

In the third stomach I found the large round solid mass of hay and straw which I exhibit; it is about 5 inches in diameter when dried, but when first examined it was of much larger size. The valvular slips and pouch-like divisions in this cavity, which I have already described, would lead to the belief that the food might assume a globular shape in this viscus. But such an accumulation as I have mentioned must, I think, be abnormal; it will, however, be interesting to examine carefully the contents of this cavity in an adult animal. I believe that the food passes from the third to the fourth stomach in the form of pellets, and that the dry and unnatural food (hay and straw) occasioned the enlargement met with.

I have made the subjoined sketch of the stomachs when laid open, the letters and figures already given indicate the various parts.

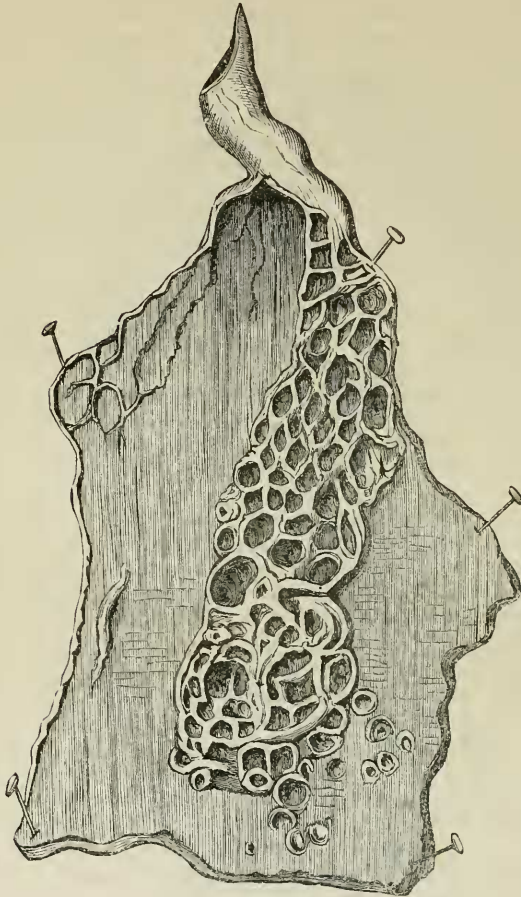
The microscopical appearances of the intestinal tube I reserve for another paper.

The intestinal tube below the stomach is of moderate calibre; the small intestines when distended measure from $1\frac{1}{4}$ to $1\frac{3}{4}$ inch in diameter. The large intestines when inflated are 3 inches in diameter, the capacity of this part of the canal amounting to about thirty-three quarts; this added to the capacity of the stomach and œsophagus makes the total capacity of the intestinal tube about forty-nine quarts. I do not speak with perfect accuracy, but the figures are not far from correct. I scarcely need remark that the capacity after death, and when the muscles are relaxed and viscera are unconfined by the abdominal walls, greatly exceeds that during life.

As I have said, there is no cæcum; but the intestine enlarges about 10 feet from the anus; and at this part is seated a large gland similar in appearance to that in the Giraffe, but of greater extent, as the drawing now exhibited (see p. 606) shows. The preparation of this gland in spirits before the Society is much contracted since its immersion, so that it gives but a very imperfect notion of its original appearance. It covers a space of about 6 square inches, and it is about 6 inches in length. The crypts or sacculi amount to about

sixty, and these are divided into smaller compartments by slight elevations of the mucous membrane; a few detached semilunar crypts are also present, as seen in the accompanying sketch.

Fig. 4.



Colic gland

The duodenum and upper part of the mucous membrane of the jejunum are covered with very small villi, giving the surface a velvety appearance. In addition to the intestinal gland already named, there are several aggregate glands in the jejunum and ilium; these are of an oblong form, and vary in length from 1 inch to $1\frac{1}{2}$ inch; those in the latter intestine are to some extent miniatures of the colic gland.

In other parts of the small intestine the surface is studded with small sieve-like patches, presenting a more regular appearance as to the size of the crypts than those above described. The lining membrane of the large intestine, with the exception of the colic gland, presents nothing worthy of notice. There are no longitudinal bands externally, and the tube is of nearly uniform calibre.

Pancreas.—The pancreas weighs about 18 oz. ; it consists of three principal lobes, one of which terminates near to the pylorus ; and probably, as in many quadrupeds, a duct enters at this part, but I omitted to make the inspection. The main duct enters the duodenum with the biliary duct 8 inches from the pylorus, by a large canal which passes obliquely through the duodenal coats for about $\frac{3}{4}$ inch before it enters the intestine. The structure of the pancreas affords no peculiarity worthy of note.

Spleen.—The spleen is long and narrow, like that of the Hogs (*Suidæ*), Peccaries (*Dicotyles*), Tapirs (*Tapiridæ*), and Elephants (*Elephantidæ*). It measures 17 inches in length and 3 in breadth ; its weight is $9\frac{1}{4}$ oz. The vein makes its exit near to the abdominal end. I cannot speak with certainty as to the presence of valves in the veins, as the parts were left for some days, and were nearly decomposed when I examined them.

Liver.—The liver is unilobular ; its length is 17 inches and its greatest width 10 inches ; its weight 7 lb. 6 oz. Although I have called the liver unilobular, there is a large notch on the anterior part that may be said to make it bilobular, although the division is not very apparent. Assuming the bilobular character to be the more correct term, that which may be called the right lobe occupies about three-fourths of the weight of the organ. Between the lobes is an elevated portion that may be said to represent the lobulus Spigelii and a large anterior elevated quadrilateral portion that corresponds to the lobus quadratus in Man ; the caudate lobe and the pons hepatis can scarcely be said to exist. According to the usual division of the human liver into five lobes, the liver of the Hippopotamus may be said to have four lobes ; but I think the sooner these elevations on the under surface of the liver are disconnected with the lobes the better ; the depression on the right of the Spigelian promontory is well marked, but there is no fissure for the inferior cava. There is no gall-bladder ; but the duct dilates into a large sac at the edge of the liver, which diminishes in size before it enters the intestine. The ligaments are strong and well marked ; the portal veins large. As regards the structure of the liver I observe nothing worthy of note.

Kidneys.—The left kidney is of an irregular shape, the form somewhat triangular with the base below ; the right is more cylindrical and regular in form ; each externally consists of about twenty-six lobes of unequal size. The lobular character is confined to the external surface, and probably in the adult animal it is much less marked. About seven mammary processes are present ; the pelvis is rather small. In the left renal vein, close to its exit from the gland, there are two valves, and one of larger size in the same situa-

tion in the right vein. A valve also exists in the vein of the left renal body, near to its exit. The renal bodies (not suprarenal capsules, as they are erroneously called) are of a triangular shape, with a notch at the base of each; the left is placed 2 inches above the kidney; the right is above, but closer to the gland. Each weighs about 240 grains. The weight of the left kidney is $8\frac{1}{4}$ oz., that of the right 7 oz.

Urinary Bladder.—The urinary bladder is very capacious; it will contain about four quarts of water, and, with the exception of that of the Wart-Hog (*Phacochærus æliani*), is proportionately larger than that of any of the pachyderms I have examined.

Organs of Generation.—The testicles small, and within the abdominal cavity; the vesiculæ seminales also small. The penis measured $12\frac{1}{2}$ inches; the extremity is large and globular, like that of the Boars. Its diameter at the end is $2\frac{1}{2}$ inches, whilst in the middle it is only $\frac{3}{4}$ inch. A large retractor muscle arises from the os pubis and ischium (as in the ruminants), and is inserted into the left side of the body of the penis 7 inches from its extremity, as seen in the wax cast. The penis and other parts of the organs of generation were removed by mistake, and therefore I am unable to give a more minute description of them.

Tongue.—The tongue is very thick at its base, the anterior end broad and round, the surface smooth and velvety; among the small villi are numerous round light-coloured papillæ about the size of a pin's head. The base of the tongue is closely set with long-pointed pear-shaped papillæ about $\frac{1}{4}$ inch in length and 2 lines in width in the centre, differing from those of the Hogs and other pachyderms in their more pointed form.

Larynx, Trachea, and Os Hyoides.—The opening of the glottis is somewhat like that of the Dolphin and Porpoise, the parts below the glottis being of an irregular-shaped pyramidal form; the thyroid cartilage, however, is placed much higher than in these animals. The laryngeal muscles are very powerful, especially the crico-arytenoidei postici. The os hyoides consists of nine bones—a central nearly circular bone about 1 inch in diameter, and eight separate cylindrical bones (six above and two below) articulated superiorly to the styloid process of the temporal bone, and below to the thyroid cartilage. The united length of the four lateral bones is 9 inches. As might be supposed from the age of the animal, none of these bones are complete; and the same remark will apply to the laryngeal cartilages. The thyroid cartilage is of shield-like form, and possesses two cornua above and below. The inferior are about 1 inch in length; the superior about $\frac{3}{4}$ inch. The length of the cartilage at its anterior part is $4\frac{1}{2}$ inches.

The cricoid cartilage has two large oblong articulating surfaces upon its upper and lateral surface, for the arytenoid cartilages. This cartilage is very thick posteriorly; its anterior part passes obliquely under the thyroid, forming a pointed ridge in front. It is narrow anteriorly, and about 2 inches deep at its posterior face. The arytenoid cartilages are thick and of an irregular triangular form, the

posterior edges flattened and measuring $\frac{2}{3}$ inch in width. The anterior edges, which form the glottis, are thin; and by their apposition the glottical slit is entirely closed. The vocal ligaments are very slightly developed. The state of the larynx and of the surrounding parts prevented my making a careful inspection of the laryngeal muscles, an investigation that will fully repay future inquirers.

The trachea consists of twenty-three rings; it is of moderate calibre (1 inch), less capacious than in many young non-aquatic animals; its size is nearly uniform; and, as in most quadrupeds, it has three terminal branches, the two on the right side being nearer together than usual. I have placed the larynx and trachea of the Porpoise and Dolphin on the table to show the resemblance of the upper part of these tubes to that of the Hippopotamus.

The heart is of a rounded form; it weighs 21 oz.; its length from the root of the aorta to the apex 6 inches, and its width at the base the same. The external course of the coronary arteries is well marked, their mouths large and in the usual situation. The pulmonary artery of very large calibre. The aorta also of large size, its coats one-third thicker than those of the last-named vessel. The first large primitive branch (innominata) is $1\frac{1}{2}$ inch from the semilunar valves, the second (subclavian), about one-half its calibre, close to it. The coats of the first-named arterial branch are of unusual thickness. The aortic and pulmonary semilunar valves present nothing worthy of notice, except that they have no corpora Arantii.

The ventricles are nearly of equal size, the left being rather more capacious. The sides of the right ventricle are generally smooth, whilst those of the left are reticulated; numerous cross bands are present at the apex of this ventricle, all passing in the lateral direction of the cavity. The parietes of the left ventricle measure about 1 inch in thickness, whilst those of the right are only $\frac{1}{6}$ inch. The septum is very thick, measuring at its upper part $1\frac{1}{4}$ inch in thickness.

The tendons of the mitral valve, fifteen in number, arise from two fleshy columns, the posterior being much larger than the anterior, although less prominent.

The tendons of the tricuspid valve, seventeen in number, spring from three columns (so called), one prominent and nipple-like, the others but little raised above the surface.

The cavities of the auricles are of about the same capacity; but the appendix of the right auricle is larger, and its parietes thinner and more distensible. In both appendices the muscoli pectinati are very numerous, those in the right forming a double reticulated layer of bands, and presenting a very beautiful appearance. The foramen ovale is deep and about the size of a shilling; it is perfectly closed, and a small nipple-like process projects from its centre. The projection at the upper part of the circle (isthmus Vieussenii) is well marked. The Eustachian valve is but imperfectly developed; indeed, with the exception of a slight semicircular elevation, it can scarcely be said to exist; there is no tubercle of Lower so-called. The openings of the two coronary veins are seen an inch below the foramen

ovale; they are about $\frac{1}{2}$ inch apart, and are unfurnished with valves. There is only one superior cava; this vessel is short, thin, and very capacious, measuring $1\frac{1}{4}$ inch in diameter. The inferior cava is also very capacious; I had not read the essay of Gratiolet, before alluded to, and unfortunately did not examine its structure. The careful inspection of the muscular band in the cava described by Gratiolet will be very important in the adult animal.

The thyroid glands, of an oblong form, are in their usual situation; they are not connected by an isthmus. Their weight is 325 grains.

Lungs.—The lungs, which weigh 8 lb. 14 oz., present some features of great interest; they are nearly unilobular, each having only a small pointed slip at the upper extremity near to the apex.

In considering the structure of the lungs it is necessary to take into account the mode of death by burning, for it is possible that the appearances I am about to describe arose from that cause. On inflating the lungs with air I was surprised to find that towards the apices large air-cells existed that would hold a common-sized horse-bean, as seen in the preparation before the Society. They presented no appearance of recent rupture; but whether they are natural, or whether it is an emphysematous condition produced by the mode of death, future examinations will determine.

Another peculiarity in the lungs is their lobular division in many parts, as shown in the preparations. The lung-tissue is subdivided into lobules of a somewhat irregular form, about the size of large Barcelona nuts. I have seen a somewhat similar appearance in the lungs of the Dolphin, Porpoise, and Seal.

The bronchial tubes are thick and capacious, their parietes consisting chiefly of unstriped circular muscular fibres.

The brain was removed from the skull piecemeal; it weighed $10\frac{1}{4}$ oz.

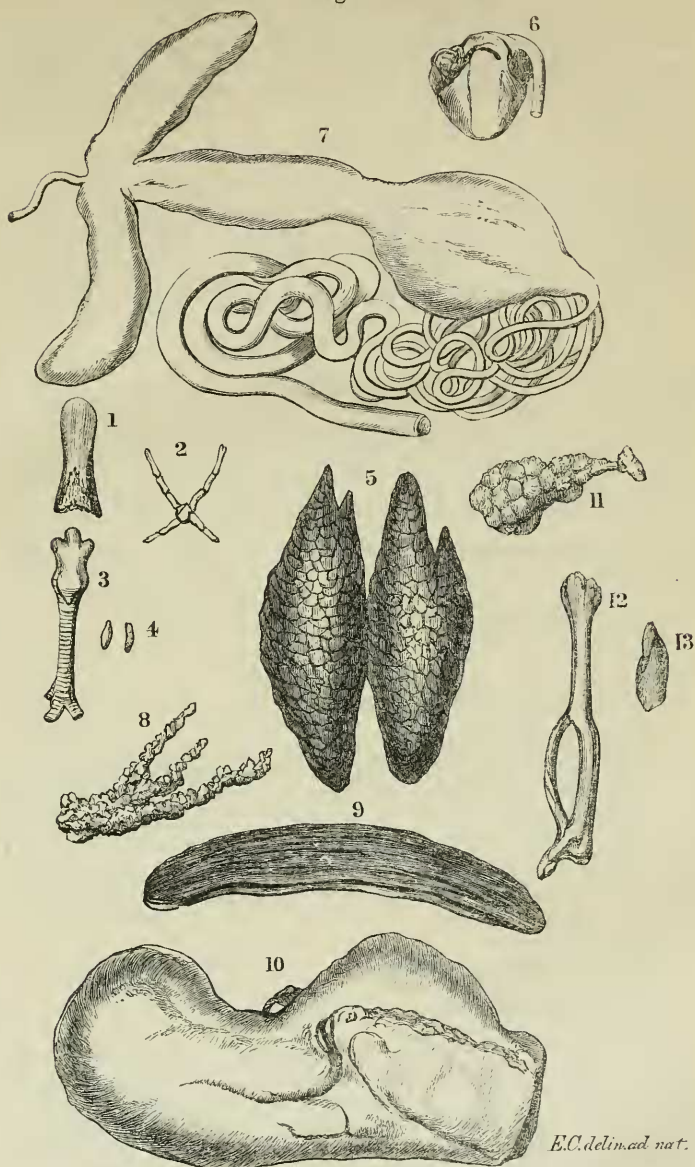
The eye, on the side towards the earth, was but little injured; it weighed about 200 grains.

In my next paper I will compare the form, size, and structure of the viscera of the Hippopotamus with those of the members of the pachyderm family and of some other animals.

The drawings which I have made of the viscera of the Hippopotamus (see fig. 5, p. 611) will better explain the form and relative size of the various organs.

P.S. After the above paper was read, my attention was directed to a short communication by Dr. Peters (in his *Naturwissenschaftliche Reise nach Mossambique*, Berlin, 1852, p. 180) "on the Visceral Anatomy of the Hippopotamus." The animal examined by Dr. Peters was an adult. The four divisions of the stomach are briefly described: the right first stomach was found to be double the length of the left. In a large full-grown animal the estimated length of the intestines is 138 feet. A gall-bladder was found long and flat placed across the pancreas. I refer the reader to this communication. The part of greatest interest, I think, in Dr. Peters's account is the large size of the first stomach. As is well known, the rumen of the ruminant is

Fig. 5.



Description of the figures:—1. The tongue. 2. Os hyoides. 3. Larynx and trachea. 4. Thyroid glands. 5. Lungs. 6. Heart. 7. Œsophagus, stomachs, and intestines. 8. Pancreas. 9. Spleen. 10. Underside of liver. 11. Kidney and renal body. 12. Penis and retractor muscle. 13. Testicle.

comparatively small whilst the animal is fed upon milk; the young Hippopotamus I dissected took a large quantity of this fluid, and hence probably the small size of the first gastric cavity. Judging from the form of the stomachs and the character of the villi, one would almost infer that a certain amount of rumination takes place in this animal.

6. On the Lepidopterous Insects of Bengal.

By FREDERIC MOORE.

[Concluded from Proc. Zool. Soc. 1867, p. 98.]

(Plates XXXII. & XXXIII.)

Tribe GEOMETRES.

Fam. URAPTERYDÆ, Guen.

Genus URAPTERYX, Leach.

URAPTERYX EBULEATA, Guen. Phal. i. p. 32.

U. MULTISTRIGARIA, Walk. Cat. Lep. Het. B. M. xxxv. Suppl. v. p. 1535.

U. SCITICAUDARIA, Walk. ib. xxvi. Geom. p. 1480.

Darjeeling.

U. PODALIRIATA, Guen. Phal. i. p. 32.

U. MARGARITATA, n. sp.

Female pearly white; costa slightly convex; apex acute; exterior margin of fore wing obliquely straight; exterior margin of hind wing acutely angular and lobed in the middle: fore wing with two medial transverse widely separated straight reddish lines, the inner line crossing the hind wing and terminating upward on the abdominal margin; cilia and lobe-spot on hind wing reddish. Band on the head and antennæ reddish.

Expanse $1\frac{3}{4}$ inch.

Bengal. In Coll. A. E. Russell.

U. TRIANGULARIA, n. sp.

Male and *female* white, diaphanous; costa convex, exterior margin of both wings obliquely straight: hind wing much produced, extending to twice the length of the abdomen. Both wings with five transverse cinereous lines, the four inner lines straight, the outer line wavy, all proceeding to the anal angle. Cilia cinereous brown; a black exterior spot at anal angle.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

U. CROCOPTERATA, Kollar, Hügel's Reis. Kasch. iv. p. 483.

U. RUFIVINCTATA, Walk. Cat. Lep. Het. B. M. xxvi. Geom. p. 1747.

Darjeeling.

U. QUADRIPUNCTATA, n. sp.

Female sulphur-yellow. Both wings with numerous short transverse irregular cinereous streaks; an oblique transverse line, and a reddish discal spot; costa at the base and exterior margins reddish. Palpi, band on head, antennæ, and dorsal streak on abdomen reddish.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. F. Moore.

U.? FALCATARIA, n. sp.

Male and *female* very pale greenish white with a silky gloss. Both wings with a cinereous discal spot and four transverse rather indistinct bands, the first and second being medial, the others submarginal; the third band joined to the second before reaching the posterior margin: hind wing produced anteriorly, and falcated. Underside paler. Legs blackish above; a black apical spot on hind tibiæ.

Expanse 2 inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

Genus EUCHERA, Hübn.

Syn. *Cyclidia*, Guen.

EUCHERA SUBSTIGMARIA, Hübn. Zutr. Exot. Schmett. f. 519.

Cyclidia substigmara, Guen. Phal. i. p. 63.

Abrazas capitata, Walk. Catal. Lep. Het. B. M. xxiv. Geom. p. 1121.

Genus CHORODNA, Walk.

CHORODNA EREBUSARIA, Walk. ib. xxi. Geom. p. 314, ♂.

Darjeeling.

C. METAPHÆARIA.

Cyclidia metaphæaria, Walk. ib. xxvi. Geom. p. 1482, ♂.

Erebomorpha semiclusaria, Walk. ib. p. 1552, ♂.

Darjeeling.

C. PALLIDULARIA, n. sp.

Male yellowish testaceous, thinly and minutely speckled with dark brown; a blackish-speckled line from abdominal margin before a large black discoidal spot, terminating in a curved series of brown lunules near the middle of the costa, before which latter is an inner similar series of lunules; an irregular submarginal blackish-testaceous line, wavy and bordered inwardly by a dusky band on the fore wing,

and angulated in the middle on the hind wing, where there is a medial series of black dots bordered without by a slight pale-brownish suffused band; costa with a speckled spot to near the base and another near the apex.

Female whitish testaceous, with the markings as in the male, but paler.

Expanse, ♂ $3\frac{1}{2}$, ♀ 4 inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

C. VULPINARIA, n. sp.

Female ferruginous, palest on the fore wing from the base; with numerous short transverse black strigæ, which near the base of the hind wing are thickly disposed. Both wings with an inner transverse blackish line, which on the fore wing is anterior to an oval discoidal black spot, but on the hind wing the spot touches the line; a transverse row of black pale-pointed discal spots, the series on the fore wing being recurved and terminating in a lunulated line on the hind margin, the discal space to the pale submarginal line being dark tawny, the margin on the fore wing being paler hindward; on the costa contiguous to the discoidal spot is a short black streak, and a short ascending streak near the base of the hind margin. Head and thorax pale, and abdomen dark ferruginous.

Expanse $3\frac{1}{2}$ inches.

Darjeeling. In Coll. W. S. Atkinson.

C. MURICOLARIA.

Cyclidia muricoloria, Walk. Cat. Lep. Het. B. M. xxvi. Geom. p. 1483, ♀.

Darjeeling.

C. PLAGIDOTATA.

Cyclidia plagidotata, Walk. ib. p. 1483, ♀.

Darjeeling.

C. RECTATA.

Cyclidia rectata, Walk. ib. xxxv. Suppl. v. p. 1536.

Darjeeling.

C. PATULATA.

Cyclidia patulata, Walk. ib. p. 1537.

Darjeeling.

DALIMA, n. g., Moore.

Male. Palpi small, compressed, pilose; second joint broadly pyriform; third joint very short, hardly visible. Antennæ bipectinated; pectinations formed of short pencils of delicate vibrissæ. Legs slender, smooth; hind tibiæ armed with two pairs of apical spurs. Body moderate. Abdomen slender, extending to near angle of hind wing. Wings ample, elongated. Fore wings falcated; costa nearly straight at the base, very convex to the apex; apex acutely

angled; exterior margin very oblique, slightly concave; posterior margin straight. Hind wings produced; anterior margin extending beyond angle of fore wing; apex truncated, excavated; exterior margin nearly straight; anal angle somewhat acute.

DALIMA APICATA, n. sp. (Pl. XXXII. fig. 4.)

Male yellow; blackish-speckled, those at the base of fore wing disposed close together, others on the exterior border forming a submarginal and marginal banded series: fore wing with a broad elongated testaceous patch occupying the apex from the middle of the costa to below the angle; a blackish streak along base of the costa, three costal spots, a series of three or four triangular spots with whitish outer border, and a large round discal spot, all slightly white-speckled; a broad lunular black spot bordered with white on the middle of posterior margin; costa and posterior border slightly suffused with testaceous: hind wing with a blackish round discal spot, and two or three decreasing blotches from the anterior and posterior angles, all whitish-speckled. Underside brighter-coloured; markings as above, but more defined.

Expanse 3 inches.

Bengal (*Sherwil*). In Coll. F. Moore.

D. SCHISTACEARIA, n. sp.

Male dark ashy brown: fore wing with a transverse wavy subbasal ashy-white line, and a white line proceeding from the costa, one-third from the apex, curving obliquely towards the exterior margin, and then retracting in a straight line to the middle of posterior margin, where it has a small inner contiguous black spot; a similar line passes straight across the hind wing; middle of fore wing and base of hind wing suffused with greyish white; exterior margin of fore wing with a white line. Underside reddish, with numerous blackish speckles thickly disposed on the fore wing, less so on the hind wing; both wings with a submarginal blackish-speckled lunulated band.

Expanse $2\frac{2}{3}$ inches.

Bengal. In Coll. A. E. Russell.

Genus *CHÆRODES*, Guen.

CHÆRODES TESTACEATA, n. sp.

Male pale testaceous, covered with numerous minute black speckles, which are thickly disposed on the middle of exterior margin of fore wing. Both wings with an inner transverse line, which on the hind wing is blackish and passes through a discoidal spot, the line on the fore wing being cinereous and exterior to a small black spot; a broad marginal suffused greyish-testaceous band retracted to the anterior margin before the apex of both wings. Underside marked as above, but all the markings are considerably more defined.

Expanse $3\frac{1}{2}$ inches.

Bengal. In Coll. A. E. Russell.

Genus LAGYRA, Walk.

Syn. *Chizala*, Walk.

LAGYRA MEGASPILA, n. sp.

Male silvery grey: fore wing with two brown basal transverse lunular lines; a third outer oblique line passing through a large dark brown discal spot, the spot being marked with two white transverse lunules: hind wing with two medial transverse brown lunular lines, and a submarginal pale dusky band, which is apparent also on the fore wing near posterior angle; both wings with a transverse discal row of brown dots. Underside paler, with the markings less apparent. Exterior margin of fore wing produced in the middle; hind wing sinuous.

Expanse $1\frac{1}{4}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

L. RIGUSARIA, Walk. Catal. Lep. Het. B. M. xxvi. Geom. p. 1485.

Larva feeds on the rose.—*A. Grote, Esq.*

Genus CIMICODES, Guen.

CIMICODES CASTANEARIA, n. sp. (Pl. XXXII. fig. 1.)

Female bright chestnut-red, minutely black-speckled; a narrow white-outer-bordered black line from below the middle of abdominal margin to near apex of fore wing, where it retracts to the costa one-fourth from the apex: fore wing with a similar oblique subbasal white-inner-bordered line; a blackish discal spot. Both wings with a submarginal row of black dots. Cilia edged with white.

Expanse 2 inches.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

C. COSTALIS, n. sp.

Female purplish red, minutely black-fleckled: fore wing with an oblique subbasal narrow blackish line; a pale red streak beyond the middle; costal margin and two large dentate medial spots yellow: hind wing with a transverse medial blackish line; anterior margin yellowish.

Expanse 2 inches.

Bengal. In Coll. A. E. Russell.

C. CRUENTARIA, n. sp.

Female yellow; apex of fore wing produced to a point; a narrow cinereous band from middle of abdominal margin to apex of fore wing: fore wing blotched at the base, and spotted beyond with pink; posterior and exterior margin and contiguous to the oblique band also blotched and spotted with pink; a small discal spot and an apical streak dark red, the latter white-marked; a marginal row of brown dots: hind wing blotched and spotted with pink exteriorly, a

few pink dots also at the base; a submarginal curved series of small dark red spots. Head, thorax, and abdomen pink.

Expanse $2\frac{1}{4}$ inches.

Bengal. In Coll. A. E. Russell.

Genus AUZEA, Walk.

AUZEAPICATA, n. sp.

Male dark greyish chestnut-colour, palest hindward; minutely black-speckled: fore wing with an oblique pale line from the apex to middle of posterior margin; costa before the pale line with two outwardly oblique short dark streaks: hind wing with a medial pale line, which is blackish, wavy, blotched, and white-lunulated by the abdominal margin: both wings with a black discal dot, and fore wing with a short transverse black lunule below the cell.

Female much paler, somewhat testaceous, less black-speckled, but with the markings more apparent. Antennæ in male slightly pectinated, in female setose.

Expanse, ♂ $1\frac{3}{8}$, ♀ $1\frac{5}{8}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

A. TORRIDARIA, n. sp.

Female pale testaceous, transversely fleckled with brownish-testaceous exteriorly; a narrow brown line from near base of abdominal margin to costa before the apex, where there is a short oblique black streak. Underside brighter-coloured exteriorly, the oblique transverse line more apparent. Antennæ slightly pectinated.

Expanse $1\frac{7}{8}$ inch.

Bengal. In Coll. A. E. Russell.

Fam. ENNOMIDÆ.

Genus LUXIARIA, Walk.

LUXIARIA PHYLLOSARIA.

Drepanodes phyllosaria, Walk. Cat. Lep. Het. B. M. xx. Geom. p. 82.

Genus DREPANODES, Guen.

DREPANODES CIRCULITARIA, Walk. ib. xxvi. Geom. p. 1489.

D. ARGENTILINEA, n. sp.

Male pale testaceous yellow: fore wing with a narrow silvery-white band (which is brownish on its inner margin) obliquely from apex to middle of hind margin, bordered exteriorly by one and interiorly by two parallel pale brown bands, each of which cross the hind wing: fore wing with a blackish discal dot. Underside paler yellow; both wings with a blackish discal dot, and numerous short transverse brown strigæ. Antennæ minutely pectinated.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell.

D. TRILINEARIA, n. sp.

Male and *female* whitish cinereous; three brown-bordered white lines obliquely from the apex to abdominal margin: fore wing brownish from the costa and across the disk, and with a slight discal dot. Underside paler, yellowish apically: fore wing dusky basally; the transverse lines slightly apparent.

Expanse $1\frac{1}{8}$ inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

D. QUINARIA, n. sp.

Male white, minutely speckled with cinereous; five cinereous lunular lines crossing both wings, the first and second contiguous and disposed obliquely across the middle of the wing, the others submarginal, the outer two being very narrow and also contiguous; a cinereous marginal line with white points. Palpi, front of head, and antennæ brownish yellow.

Expanse $1\frac{1}{8}$ inch.

Bengal. In Coll. A. E. Russell.

D. FENESTRARIA, n. sp.

Male whitish cinereous; two widely separated wavy brown lines from abdominal margin to costa before the apex, between which on the fore wing is a diaphanous spot crossed by two veins; a submarginal and marginal row of white lunules, the former being concave exteriorly, the latter interiorly and bordered by a brown marginal line.

Expanse $1\frac{4}{12}$ inch.

Bengal. In Coll. F. Moore.

Genus *DECETIA*, Walk.

DECETIA CAPETUSARIA, Walk. Cat. Lep. Het. B. M. xx. Geom. p. 233.

Silhet.

Genus *AGNIDRA*, n. g., Moore.

Fascellina, part., Walk. Cat. Suppl. p. 1553.

Male. Palpi small, erect, pilose beneath; second joint long; third joint small, conical. Head broad. Antennæ rather broadly bipedunculate to within one-fourth of the tip. Legs moderate; femora slightly pilose beneath, and tibiæ at the side; fore tibiæ thickly pilose; mid tibiæ with a pair and hind tibiæ with two pairs of apical spurs. Wings broad: fore wing falcated; costa slightly arched before the apex, posterior angle rather acute: apex and anal angle of hind wing slightly pointed; exterior margin convex; abdominal margin elongated. Abdomen rather short, extending to within one-third of the hind wing, tufted at the apex.

AGNIDRA SPECULARIA. (Pl. XXXII. fig. 2.)

Fascellina specularia, Walk. Cat. Lep. Het. B. M. xxxv. Suppl. v. p. 1553.

A. MUSCULARIA.

Fascellina muscularia, Walk. Cat. Lep. Hct. B. M. xxxv. Suppl. v. p. 1554.

A. DISCIPILARIA, n. sp.

Male greyish ferruginous; both wings with a large blackish grey-speckled discal spot; several transverse indistinct cinereous lunular lines, and a submarginal row of dots; two small indistinct cinereous spots before the discal spot within cell. Underside pale luteous; discal spot and spots before it less distinct.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell.

Note.—The species subsequently described by Mr. Walker under *Fascellina* do not belong to that genus, nor to *Agnidra*. The type of the genus *Fascellina* (*F. chromataria*, Walk.) belongs to the tribe of Noctuelites, where I have placed it, in the family *Thermesidæ*.

Genus HYPERYTHRA, Guen.

HYPERYTHRA LUTEATA.

Phalæna-Geom. lutea, Cram. Pap. Exot. iv. pl. 370. f. C, D.

♀. *Hyperythra limbolaria*, Guen. Phal. i. p. 101, pl. 3. f. 3, 4.

Aspilates susceptaria, Walk. Catal. Lep. Het. B. M. xxxv. Suppl. v. p. 1664.

♂. *Hyperythra penicillaria*, Guen. Phal. i. p. 101.

H. NIGUZARIA, Walk. *l. c.* xx. p. 129.

Silhet.

H. VITTICOSTATA, Walk. *l. c.* xxvi. Geom. p. 1497.

Darjeeling.

H. SPURCATARIA, Walk. *l. c.* p. 1498.

Darjeeling.

H. CALCEARIA, Walk. *l. c.* xx. Geom. p. 132.

H. TRILINEATA, n. sp.

Female pale yellowish cinereous, palest on the hind wing, covered with numerous minute red speckles: fore wing with three oblique transverse equidistant reddish lines, the exterior line the brightest; between first and second line is a subdued discal spot; a marginal row of blackish-red dots: hind wing with two transverse reddish lines, and a marginal row of dots. Palpi black.

Expanse 2 inches.

Bengal. In Coll. A. E. Russell; F. Moore.

Genus CAUSTOLOMA, Lederer.

CAUSTOLOMA ENNOMOSARIA.

Hyperythra ennomosaria, Walk. *l. c.* xxvi. Geom. p. 1498.

Darjeeling.

Genus ANGERONA.

ANGERONA PALLICOSTARIA, n. sp.

Male greenish grey: fore wing with the exterior margin broadly ashy black, bordered within with blackish fleckles, which are also dispersed along the posterior margin on a reddish ground; two short yellow streaks from the posterior angle; reniform mark distinct: hind wing ashy black, somewhat whitish basally, with a broad yellowish anal band. Head, thorax, and abdomen greenish grey, the latter fleckled with black. Underside paler; both wings minutely speckled with black on their basal half; each with a rather large black discal spot.

Expanse 2 inches.

Bengal. In Coll. A. E. Russell.

Genus OMIZA, Walk.

OMIZA PACHIARIA, Walk. Cat. Lep. Het. B. M. xx. Geom. p. 247.

Genus PANISALA, n. g., Moore.

Male. Palpi small, compressed, densely pilose; third joint minute, conical. Antennæ very broadly pectinated to near the tips. Legs slender, smooth; hind tibiæ incrassated in the middle, armed with four long spurs. Body slender; abdomen extending to three-fourths the length of the hind wing. Wings broad: fore wing truncated at the apex; costa nearly straight; exterior margin very oblique, slightly convex in the middle; angle rather acute: hind wing subquadrate; exterior margin truncated and concave anteriorly to near the middle, where it is angled, thence to the anal angle nearly straight.

PANISALA TRUNCATARIA, n. sp.

Male brownish testaceous, darkest exteriorly, minutely black-fleckled: fore wing with two reddish-black transverse oblique sub-basal lines, and a double anteriorly bent discal line; a submarginal row of whitish dark-exterior-bordered lunules, before which on the posterior margin is a whitish patch: hind wing with one subbasal and a double discal reddish-black line, the former parallel with the second line on the fore wing; a submarginal row of white lunules with black exterior borders. Both wings with a small black discal spot.

Expanse $2\frac{3}{4}$ inches.

Bengal. In Coll. A. E. Russell.

Genus EURYMENE, Dup.

EURYMENE INUSTARIA, n. sp.

Female yellow: both wings covered with transverse narrow partly confluent ferruginous strigæ, which are darkest on the middle of the posterior margin upward, whence there is an outwardly oblique pale-bordered streak extending towards the apex; a small blackish

spot at the apex; cilia ferruginous; strigæ on the underside crimson, mostly confluent before the apex and on the hind wing. Head and front of thorax blackish.

Expanse $1\frac{3}{8}$ inch.

Bengal. In Coll. A. E. Russell.

Genus ODONTOPTERA, Steph.

ODONTOPTERA DISCOSPILATA, n. sp.

Male and *female* dark green: both wings with a transverse subbasal and two discal whitish-bordered dark-green lunular lines, the former with the points of the lunules inward, those of the latter being opposite to each other; each wing with a large black discal spot encircled by a narrow yellow line; cilia dark brown, edged with white. Palpi and front of head blackish. Thorax and abdomen green, the latter with black dorsal spots. Underside testaceous, with numerous short transverse black strigæ; both wings with a transverse black discal band; cilia black, edged with white.

Expanse $2\frac{1}{8}$ inches.

Bengal. In Coll. A. E. Russell; F. Moore.

Genus SELENIA, Hübn.

SELENIA DECORATA, n. sp. (Pl. XXXII. fig. 9.)

Male and *female* pinkish grey, brightest exteriorly; with numerous minute black speckles: fore wing with a subbasal transverse curved sinuous narrow red line, bordered within by a dark green-fleckled line; a transverse discal narrow lunular red line bordered exteriorly by red and green lunules, assuming patches below the apex and near the posterior angle: hind wing with a red basal line and transverse discal narrow sinuous line; a lower submarginal straight white line bordered above by green lunules extending to the anterior angle, where the exterior margin is black-lunuled. A black discal spot on each wing. Underside grey, minutely black-speckled; discal spot and transverse lines less defined.

Expanse, ♂ $1\frac{7}{10}$, ♀ 2 inches.

Bengal. In Coll. A. E. Russell; F. Moore.

Genus ENDROPIA, Guen.

ENDROPIA BASIPUNCTA, n. sp.

Male and *female* dark testaceous red, thinly black-fleckled; exterior margins sinuous; a small black-marked white spot near the base of both wings: fore wing with two transverse bands of black fleckles, the first band subbasal, the other medial; a submarginal row of distinct black dots, exterior to which beneath the apex is a black-fleckled patch; a similar patch at the posterior angle: hind wing with an inner fleckled band and discal sinuous fleckled line.

Expanse, ♂ $1\frac{1}{4}$, ♀ $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

Genus CROCALIS, Treit.

CROCALIS OBLIQUARIA, n. sp.

Female bright yellow: fore wing slightly blotched with reddish yellow; a black discal spot; a straight dusky pale-yellow-exterior-bordered band obliquely from posterior margin to the costa before the apex; a row of black marginal dots: hind wing yellowish white, with a blackish discal spot, and two slightly apparent outer yellowish bands. Head and thorax bright yellow. Abdomen pale yellow. Underside paler, marked as above.

Expanse $1\frac{3}{4}$ inch.

Bengal. In Coll. A. E. Russell.

C. BIVITTARIA, n. sp.

Male and *female* bright yellow: fore wing with a few minute red scattered fleckles; a slightly apparent subbasal red-fleckled curved band; a brighter dark-exterior-bordered red nearly straight band from the posterior margin one-third from the angle obliquely to the costa before the apex; a blackish discal ringlet: hind wing yellowish white. Head and thorax reddish yellow. Abdomen yellow. Underside pale yellow; both wings with a small discal ringlet and slight reddish oblique band, those on the hind wing being slightly visible from the upperside.

Expanse, ♂ 2 inches, ♀ $2\frac{3}{10}$ inches.

Bengal. In Coll. A. E. Russell; F. Moore.

C. LENTIGINOSARIA, n. sp.

Female dark yellow: fore wing with numerous minute blackish speckles and cinereous blotches; two medial transverse cinereous lines, the inner line curved and but slightly apparent, the outer line oblique, between the lines is a white-centred black discal ringlet; a submarginal row of diffused cinereous lunules; a marginal row of black dots: hind wing numerous studded with cinereous speckles exteriorly, showing also a slight cinereous discal spot and two outer bands. Underside paler, marked as above.

Expanse $2\frac{2}{5}$ inches.

Bengal (*Sherwill*). In Coll. F. Moore.

C. ANGULARIA, n. sp.

Female yellow: fore wing scalloped below the apex; with numerous small dark-centred reddish blotches; two dark reddish transverse lines, the first line subbasal, much curved; the other recurved and exterior to a black discal ringlet; a marginal row of black dots: hind wing with a few reddish fleckles and a row of blackish dots along exterior margin; a black discal spot, and outer reddish wavy streak from abdominal margin. Underside paler, marked as above. Cilia of fore wing reddish.

Expanse 2 inches.

Bengal. In Coll. A. E. Russell.

Genus ENNOMOS, Treit.

ENNOMOS VIRIDATA, n. sp.

Female pale green: fore wing with three transverse pale brown lines, the first subbasal, the second beyond a small blackish discal ringlet, the third or outer line very oblique and joining the second at its base on the middle of posterior margin; a submarginal row of blackish partly confluent spots, and marginal dots: hind wing with a transverse line passing through the discal spot, and a medial outer sinuous line; exterior margin with a row of black dots and some short transverse delicate black strigæ. Cilia blackish. Exterior margin of hind wing slightly sinuous, produced and sharply angled in the middle.

Expanse $2\frac{1}{8}$ inches.

Bengal. In Coll. A. E. Russell.

E. TESTACEARIA, n. sp.

Male and *female* testaceous, minutely black-speckled: both wings with a transverse curved subbasal ill-defined blackish sinuous line and an oblique broader discal line, beyond which is a transverse series of black dots, and an irregular submarginal row of broad diffused dusky-speckled lunules. Some white irregular speckles exterior to the discal line on fore wing. A small black discal spot on each wing. Exterior margin of hind wing scalloped.

Expanse $2\frac{1}{4}$ inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

GARÆUS, n. g., Moore.

Male. Palpi suberect, compressed, projecting beyond the front of the head, pilose; third joint cylindrical, decumbent. Antennæ bipectinated. Legs slender, smooth; hind tibiæ with four apical spurs. Body robust; thorax broad. Abdomen extending to the angle of the hind wing. Wings moderate: fore wing with the costa elongated, slightly arched at the base and apex, falcated; exterior margin oblique, rounded, scalloped; posterior margin nearly straight: hind wing rather broad, extending to the posterior angle of the fore wing; exterior margin rounded, deeply scalloped.

GARÆUS SPECULARIS, n. sp. (Pl. XXXII. fig. 3.)

Male bright ferruginous, with cinereous-black short transverse basal strigæ and exterior speckles; a diffused cinereous-black oblique discal band and a less-defined submarginal line crossing both wings; a similar-coloured narrow indistinct band near the base of the wing; middle of both wings yellowish-streaked, the fore wing having a black discal spot and two lower small white semitransparent spots contiguous to the outer band: hind wing with two white semitransparent medial spots, the upper spot being very large and enclosing a black discal spot; two smaller less-distinct whitish submarginal spots.

Cilia edged with white. Palpi, front of head, and front of thorax fringed with white.

Expanse $1\frac{3}{8}$ inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

Genus LYCIMNA.

LYCIMNA POLYMESATA, Walk. Cat. Lep. Het. B. M. xx. Geom. p. 215.

Silhet.

Genus EREBOMORPHA, Walk.

EREBOMORPHA FULGURITA, Walk. ib. xxi. Geom. p. 495.

E. FULGURARIA, Walk. ib. p. 495.

Genus LITBADA, Walk.

LITBADA SERICEARIA, Walk. ib. xxxv. Suppl. v. p. 1571.

Silhet.

Fam. CENOCHROMIDÆ.

Genus MERGANA, Walk.

Syn. *Auxima*, Walk.

MERGANA ÆQUILINEARIA, Walk. Cat. Lep. Het. B. M. xxi. Geom. p. 292.

Auxima trilineata, Walk. ib. xxxv. Suppl. v. p. 1576.

M. RESTITUTARIA.

Auxima restitutaria, Walk. ib. xxvi. Geom. p. 1527.

M. DEBITARIA.

Auxima debitaria, Walk. ib. p. 1527.

M. BILINEATA, n. sp.

Male whitish ferruginous, with numerous short transverse cinereous strigæ; two dark ferruginous narrow oblique transverse lines crossing both the wings, the outer line with a white inner border, the space exterior to both the lines suffused with brighter ferruginous; cilia ferruginous. Underside pale pinkish-whitish ferruginous; strigæ as above; with medial transverse dark brown line, and an indistinct pale outer line, the latter with inner row of black points.

Expanse $2\frac{1}{4}$ inches.

Bengal (*Sherwill*). In Coll. F. Moore.

COROTIA, n. g., Moore.

Male and *female*. Palpi rather stout, porrect, densely pilose; second joint projecting beyond the head; third joint short, cylindrical. Antennæ—male pectinated to near the tip; female setaceous. Legs slender, smooth; hind tibiæ with four long spurs.

Body rather stout. Wings moderate: fore wing slightly falcate at the tip; costa nearly straight; exterior margin sinuous below the apex, oblique hindward; posterior margin slightly convex: hind wing rounded exteriorly; outer margin slightly sinuous anteriorly.

COROTIA CERVINARIA, n. sp. (Pl. XXXII. fig. 10.)

Male and *female* pinkish fawn-colour, thinly and minutely transversely black-fleckled: fore wing with a broad medial oblique transverse pale chestnut-brown band, the borders with a whitish dot on each vein, enclosing a large grey discal spot; two or three marginal black spots below the apex: hind wing with a dusky discal spot and outer transverse line. Underside greyish fawn-colour, black-fleckled; discal spots distinct, blackish; transverse line pale-bordered: hind wing with marginal black dots, those on the fore wing being at the apex only. Shaft of antennæ yellowish, with black spots.

Expanse $1\frac{3}{4}$ inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

Fam. AMPHIDASIDÆ.

Genus AMPHIDASYS.

AMPHIDASYS BENGALIARIA, Guen. Phal. i. p. 210.

Silhet.

Genus BUZURA, Walk.

BUZURA MULTIPUNCTARIA, Walk. Cat. Lep. Het. B. M. xxvi. p. 1531.

Larva feeds on *Citrus* and *Cinnamomum*.—*A. Grote*.

Fam. BOARMIDÆ.

Genus AMBLYCHIA, Guen.

AMBLYCHIA ANGERONARIA, Guen. Phal. i. p. 215, pl. 4. f. 9.

Genus HEMEROPHILA, Steph.

HEMEROPHILA CREATARIA, Guen. ib. p. 217.

Darjeeling.

H. STRIXARIA, Guen. ib. p. 217.

Silhet.

H. MAURARIA, Guen. ib. p. 218.

Elphos parisnathi, Walk. Catal. Lep. Het. B. M. xxvi. Geom. p. 1545.

H. OBJECTARIA.

Boarmia objectaria, Walk. ib. xxxv. Suppl. v. p. 1583.

Darjeeling.

H. CUPREARIA, n. sp.

Male greyish black, with a cupreous tinge: fore wing with transverse curved subbasal and straight discal sinuous black lines; a black discal ringlet; a coppery-yellow submarginal line, which is straight hindward and wavy to the apex, adjoining which are some broad black lunules; a black wavy marginal line: hind wing with a blackish sinuous discal line, a small spot, and wavy marginal line; a submarginal coppery-yellow line similar to that on the fore wing. Head and thorax greyish black. Antennæ brown. Underside pale greyish black, darkest along exterior margins; discal line and spot and marginal line black.

Expanse $1\frac{8}{10}$ inch.

Bengal. In Coll. A. E. Russell.

H. NIGROVITTATA, n. sp.

Male pale testaceous brown, with numerous short transverse black strigæ: both wings with a black subbasal transverse line, rather straight on the hind wing, and wavy on the fore wing, in the middle of which it is joined by a broad black longitudinal streak proceeding to the base of the posterior margin; a very oblique transverse discal sinuous black line, which is bent before the apex and broadly bordered exteriorly to near the apex by blackish brown; a submarginal white line, which is rather straight hindward and sinuous forward, where there is a short white longitudinal streak; exterior margin with a row of narrow black lunules. Head blackish; thorax and abdomen blackish-streaked. Antennæ blackish; shaft luteous, black-speckled. Underside paler, with indistinct blackish-brown subbasal line, discal spot, and broad submarginal band, the latter touching the exterior margin below the apex. Legs blackish, with yellow spots.

Expanse $1\frac{3}{4}$ inch.

Bengal. In Coll. A. E. Russell.

H. BASISTRIGARIA, n. sp.

Male and *female* pale ferruginous brown, with numerous short very thin black transverse strigæ, which at the basal third of the wings are thicker, more or less confluent, forming exteriorly transverse bands; a black discal dot; beyond the middle is a transverse pale-bordered black line, irregular on the fore wing and sinuous on the hind wing, exterior to which the strigæ are more or less confluent; a submarginal irregular interrupted pale line and a black marginal lunulated line; cilia blackish, with a pale inner line.

Expanse $1\frac{7}{8}$ inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

H. INTERRUPTARIA, n. sp.

Male and *female* greyish testaceous, palest along the costal border; with numerous black narrow short transverse strigæ; blotched with brighter testaceous: fore wing with oblique exteriorly greyish-bor-

dered diffused black submarginal wavy line; a double lunular discal line, and two short subbasal bands, their interspaces being somewhat dusky, each being equidistant and arising from the posterior margin, becoming evanescent at some distance above the middle, but reappearing, slightly in the male, prominently in the female, on the costa: hind wing with two indistinct subbasal black lines, a discal spot, and outer greyish-exteriorly-bordered transverse double lunular line; exterior margin with a row of black lunules.

Expanse $2\frac{1}{2}$ inches.

Bengal. In Coll. A. E. Russell; F. Moore.

H. RETRACTARIA, n. sp. (Pl. XXXII. fig. 7.)

Male and *female* dark greyish testaceous, with numerous closely disposed, short, very narrow black strigæ: fore wing grey at the base and along the costal border; a zigzag blackish band obliquely from base of hind margin retracting to the costa at one-third of its length, bordered exteriorly by a black line; a parallel black-inner-bordered greyish-black submarginal band, which also retracts to the costa before the apex, emitting a black streak from the retracted angle to exterior margin; a black discal spot: hind wing with a basal blackish band, discal spot, and submarginal black-inner-bordered greyish-black band, exterior to which on both wings, in the female, the space is pale or greyish; a black marginal line. Cilia broad, dark testaceous. Body greyish, with blackish waist-band.

Expanse $1\frac{7}{8}$ inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

H. HUMERARIA, n. sp.

Male pale whitish testaceous: hind wing with closely disposed very narrow transverse ferruginous strigæ; a black line bordered within by a parallel ferruginous line from base of hind wing, ascending the fore wing parallel with the costa to beneath a black discal spot, before and above which it twice retracts and then proceeds to the base of the wing along the costa, the space within being whitish grey: fore wing with three slightly apparent ferruginous bands obliquely from below the apex to hind margin; exterior margin with a suffused dusky-grey patch near the apex and posterior angle: hind wing with a black discal dot; a slightly apparent narrow inner and broad submarginal band, formed of partly confluent ferruginous lines, the latter bordered inwardly by a fine black sinuous line, and outwardly by a straight white line. Head and collar of thorax testaceous; thorax greyish white. Abdomen yellowish ferruginous, with blackish waist-band, and narrow segmental borders.

Expanse $2\frac{1}{3}$ inches.

Bengal. In Coll. A. E. Russell.

H. ATROSTIPATA.

Scotosia atrostipata, Walk. Catal. Lep. Het. B. M. xxv. Geom. p. 1354.

Genus *CLEORA*, Curtis.

CLEORA VENUSTULARIA, Walk. Cat. Lep. Het. B. M. XXXV. Suppl. v. p. 1579.

Darjeeling.

C. DECUSSATA, n. sp. (Pl. XXXIII. fig. 4.)

Male and *female* white: fore wing with a broad transverse medial white band bordered on each side by a narrow black line, and containing a large upper and lower black spot, the upper one centred with a white dot, the outer line outwards anteriorly and posteriorly, the outer space to exterior margin being pale testaceous, and traversed by a wavy submarginal white line with a diffused black inner border and outer subapical and posterior black streaks; inner line of the band also bent outwards posteriorly, the space thence to a short subbasal transverse black streak pale testaceous, the extreme base of the wing being white: hind wing with indistinct dusky discal spot, transverse maculated line and streak from anal angle; a marginal lunular line. Body with blackish spots. Underside pale white; markings as above, but less defined.

Expanse $1\frac{3}{10}$ inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

C. RUFOMARGINATA, n. sp.

Male and *female* pale greyish brown, with numerous short transverse blackish strigæ: fore wing pale ferruginous along posterior and exterior borders; two transverse black lines, the inner line considerably curved, the other abruptly curved outwards below the costa and outwardly dentate near posterior margin; exterior border black-patched, traversed by a submarginal zigzag greyish-white line; discal spot black, elongate, confluent with the costa: hind wing with three ill-defined blackish partly transverse lines, and discal spot. Exterior margins with a row of black lunules. Cilia pale, with a black medial line. Underside yellowish; discal spots distinct: fore wing with broad blackish marginal band; other markings similar. Legs with black spots.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

C. FIMBRIATA, n. sp.

Male and *female* dark ferruginous: hind wing greyish at the base: fore wing blotched with black along the costa and exterior border; two oblique transverse black lines, which are rather close together, between which is a black discal spot, the outer line bordered by a row of black spots: hind wing with two transverse diffused blackish lines, enclosing the discal spot, the outer line traversed by a sinuous greyish-white line; exterior border with black strigæ; a marginal row of black lunules. Cilia black, with alternate ferruginous streaks. Underside cinereous brown, with blackish discal spot and outer transverse sinuous line.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

C. MEGASPILARIA, n. sp.

Male and *female* blackish cupreous brown, palest on the hind wing, slightly greyish across the disk; with numerous short transverse delicate black strigæ: fore wing with a black transverse subbasal and exterior pale-outer-bordered spotted lines, which curve outwards to the middle of the wing and thence obliquely descend inwardly to posterior margin; discal spot very large, black, ascending to the costa; a submarginal narrow sinuous whitish line bordered on both sides by longitudinal black streaks: hind wing with a small indistinct discal spot, and transverse spotted line. A marginal row of black lunules on both wings. Underside yellowish, with blackish cinereous similar markings; the exterior border of fore wing blotched. Cilia with pale inner line.

Expanse $1\frac{3}{4}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

C. ALBIDENTATA, n. sp.

Female testaceous, with numerous short transverse black strigæ: fore wing with a black transverse subbasal irregular curved line, and outer obliquely straight sinuous line; discal spot narrow; a submarginal row of pure white marks, the middle one being a large round spot, the others dentate spots: hind wing pale greyish brown, with three short transverse sinuous blackish lines from abdominal margin. Both wings with a blackish marginal line. Underside paler, thickly studded with short transverse cinereous strigæ; transverse discal spot and outer line indistinct. Legs with blackish spots.

Expanse $1\frac{5}{8}$ inch.

Bengal. In Coll. F. Moore.

C. PANNOSARIA, n. sp.

Female brown: fore wing with a broad purplish brown exterior band extending by a broad longitudinal streak to a white narrow discal spot, which it encloses, the space above and beneath the streak being yellowish, the inner margin of the band and the base of the wing green; two transverse subbasal reddish contiguous lines; several short transverse red strigæ on posterior margin; exterior band traversed by a row of purplish-grey lunules: hind wing pale brown, with several short darker strigæ; a small brown discal spot, and short streaks from abdominal margin; a broad pale purplish-brown marginal band traversed by pale lunules. Exterior margins with a row of black lunules. Cilia yellowish. Underside yellow, marked as above.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell.

C. SEMICLARATA.

Selidosema semiclarata, Walk. Cat. Lep. Het. B. M. xxiv. p. 1029.

Scotosia quadrifera, Walk. ib. xxxv. Suppl. v. p. 1687.

Darjeeling.

Genus BOARMIA, Treit.

BOARMIA ALIENARIA, Walk. Cat. Lep. Het. B. M. xxi. Geom. p. 370.

♀. *Boarmia gelidaria*, Walk. ib. xxvi. p. 1537.

B. VICARIA, Walk. ib. xxi. Geom. p. 371.

Silhet.

B. IMPARATA, Walk. ib. p. 372.

Darjeeling.

B. ALBIDARIA, Walk. ib. xxxv. Suppl. v. p. 1582.

Darjeeling.

B. SUBLAVARIA, Guen. Phal. i. p. 256.

B. TRISPINARIA, Walk. ib. xxi. Geom. p. 378.

Silhet.

B. TRANSCISSA, Walk. ib. p. 380.

Silhet.

B. REPARATA, Walk. ib. p. 380.

B. OBLITERATA, n. sp.

Female greyish white, minutely fleckled with pale brown: fore wing brownish along the costa and from the apex to the middle of exterior margin, beneath which from the angle is a broad lunular streak; four transverse equidistant very indistinct brownish lunulated lines; a marginal row of brown lunular spots. Head and front of thorax brownish; thorax white. Abdomen pale luteous. Underside whiter; a blackish streak below the costa; a large black discal spot, and an apical and posterior patch. Cilia white. Body pale luteous; legs brownish, with pale spots.

Expanse $2\frac{1}{2}$ inches.

Bengal. In Coll. A. E. Russell; F. Moore.

B. PERSPICUATA, n. sp.

Male and *female* pale luteous brown, minutely black-fleckled, most numerous at the base.

Male. Fore wing with three obliquely transverse slightly sinuous black lines, the first line curved, the second embracing a discal ringlet, the outer line outwardly bent near each end, the interspaces being somewhat whitish: hind wing with two transverse black lines, between which is a discal spot: both wings with a submarginal medially broad black lunular band with whitish outer border; a marginal lunular line; the inner transverse line of the fore wing in the female is hardly separable from the contiguous black fleckles, the next being indicated only by a discal spot extending to the costa. Thorax with blackish collar. Abdomen with white waist-band and blackish dorsal bands; anal tuft in the male yellowish. Underside

pale yellowish; the markings less apparent, and with a large apical patch on the fore wing, are dark cinereous. Legs with cinereous spots.

Expanse $1\frac{3}{4}$ inch.

Bengal. In Coll. A. E. Russell.

B. CONTIGUATA, n. sp.

Male greyish white; with two transverse subbasal blackish-cinereous sinuous lines, and four exterior broader lines, the two outer separated by a white sinuous line; a medial sinuous line enclosing a whitish discal spot; a marginal row of blackish lunules. Abdomen with cinereous bands. Underside with large blackish discal spot, and broad submarginal band, which joins the exterior margin in the middle.

Expanse $1\frac{5}{8}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

Remark.—Allied to *B. propulsaria*, Walk., from Borneo.

B. COMBUSTARIA.

Gnophos combustaria, Walk. Cat. Lep. Het. B. M. xxxv. Suppl. v. p. 1598.

Darjeeling.

Genus *TEPHROSIA*, Boisd.

TEPHROSIA SCRIPTARIA, Walk. ib. p. 1590.

Darjeeling.

T. COMPARATARIA.

Boarmia comparataria, Walk. ib. p. 1582.

Darjeeling.

T. MUCIDARIA.

Boarmia mucidaria, Walk. ib. p. 1581.

Darjeeling.

T. DENTILINEATA, n. sp.

Male and *female* cinereous white, minutely brown-speckled: fore wing with a subbasal transverse oblique row of three or four small dark brown spots, and a discal partly double interrupted row of dentiform marks; a small discal spot; a submarginal pale sinuous brown-bordered line twice streaked with dark brown at the apex on the inner side: hind wing with small dark brown discal spot, adjacent line to abdominal margin, and transverse discal sinuous line; a submarginal pale line with brown borders. Both wings with an exterior marginal row of blackish lunules. Underside paler, without markings.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

Genus HYPOCHROMA, Guen.

HYPOCHROMA DISPENSATA, Walk. Catal. Lep. Het. B. M. xxi. Geom. p. 435.

Balasure.

H. BOARMARIA, Guen. Phal. i. p. 282.

Boarmia inconclusa, Walk. ib. p. 382.

Darjeeling.

H. MUSCICOLORARIA, Walk. ib. xxvi. Geom. p. 1543.

Darjeeling.

H. NYCTEMERATA, Walk. ib. xxi. Geom. p. 444, xxvi. p. 1543.

Larva feeds on *Xanthium indicum* and *Zizyphus*.—A. Grote.

H. VIRIDARIA, n. sp.

Female yellowish green, with numerous disposed short transverse darker green confluent strigæ; a slightly disposed apparent inner and a blackish outer obliquely transverse straight sinuous line, the latter with whitish exterior border and a submarginal black-speckled reddish streak; a small blackish discal spot and wavy marginal line. Body minutely black-speckled. Underside cinereous white; a black discal spot and broad blackish-cinereous submarginal band; fore wing reddish exteriorly, where there are numerous blackish fleckles; a marginal row of black lunular spots.

Expanse $\frac{2}{8}$ inches.

Bengal. In Coll. A. E. Russell.

H. IRRORATARIA, n. sp.

Female white, covered with very numerous minute speckles, which are blackish basally and pinkish exteriorly: fore wing with a sub-basal transverse subdued blackish thrice-waved line, a waved discal streak, and outer black acutely sinuous line, the latter extending across the hind wing; both wings with a submarginal wavy white line and marginal lunules, and a narrow blackish marginal lunular line. Underside white, bright yellow at the base, an elongated blackish discal spot on fore wing, and broad blackish submarginal band to both wings, which is slightly confluent with the exterior margin on the fore wing.

Expanse 2 inches.

Bengal; Silhet. In Coll. A. E. Russell; F. Moore.

H. BASIFLAVATA, n. sp.

Male sap-green: fore wing fleckled with black; a short black obliquely descending streak at the base; a submarginal row of red lunular spots; exterior margin with short black longitudinal lines: hind wing golden-yellow, with a broad marginal blackish band, tinged with cupreous, from abdominal angle. Cilia green. Head and abdomen pale yellow, the latter with brown dorsal tufts. Thorax sap-

green. Underside—both wings bright yellow, with broad blackish outer band, palest and slightly whitish along the exterior margin. Palpi and legs black-speckled.

Expanse $1\frac{3}{4}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

H. VARICOLORARIA, n. sp.

Male dark cinereous: fore wing with numerous short transverse cinereous, pink, and yellow strigæ, those of the latter colour predominating in the middle of the wing between two pale-bordered black transverse discal lines, those of the darker colour being confluent at the base and along exterior border; beneath the apex and at the posterior angle is a pale patch; discal spot blackish: hind wing with the strigæ most thickly disposed along exterior border, and across the veins from the base; an indistinct inner transverse line and darker black outer sinuous line: both wings with a marginal blackish line lunulated with white; cilia pink, paler beneath, slightly spotted with cinereous on the fore wing. Head luteous. Thorax cinereous. Abdomen luteous, with four dorsal tufts laterally edged with black.

Expanse 2 inches.

Bengal. In Coll. A. E. Russell.

H. TENEBROSARIA, n. sp.

Male dark cinereous brown, with numerous short transverse greyish-white strigæ, which are most thickly disposed across the middle of the fore wing: fore wing with a transverse indistinct oblique subbasal blackish sinuous line, a discal spot, and an outer more clearly defined sinuous line: hind wing with a similar outer sinuous line: both wings with a submarginal indistinct whitish wavy lunular line. Underside cinereous white; both wings with a cinereous-black discal spot, a transverse outer row of lunulated spots, and a broad marginal band with a pale spot at the apex.

Expanse $2\frac{1}{3}$ inches.

Bengal. In Coll. A. E. Russell; F. Moore.

H. COSTISTRIGARIA, n. sp.

Male greyish green: fore wing with a subbasal transverse blackish line, which is bent outward near the costa; an exterior transverse widely sinuous greenish-black line, which is medially curved outwards and bordered with greyish white; along the costa between the lines are numerous short transverse black and pale-testaceous strigæ, which also extend down the inner portion along the subbasal line; discal spot diffused brown; some transverse black spots at the base of the wing and some short blackish strigæ from the costa before the apex to the exterior margin below it: hind wing with pale-brown and testaceous strigæ at the base; a diffused blackish discal spot, and narrow blackish outer whitish-margined sinuous line: both wings with an indistinct submarginal row of whitish lunules; cilia edged with white. Front of head jet-black; top and thorax green. Ab-

domen pale luteous. Underside white, the base bright yellow; a black discal spot on fore wing; a submarginal black band confluent with the outer border below the apex on both wings.

Expanse 2 inches.

Bengal (*Sherwill*). In Coll. F. Moore.

H. LEOPARDINATA, n. sp.

Male yellow: fore wing nearly covered with short transverse black strigæ; a black streak at the base; two medial irregular transverse broad blotchy black-fleckled bands, between which is a narrow black oblique discal spot, the exterior band being bordered by reddish brown; exterior margin of the wing with black strigæ and yellow spots: hind wing with the base and a medially interrupted submarginal band blackish cinereous, the latter having similar-coloured exterior strigæ; a marginal line of black lunular spots. Head and body yellowish. Underside yellow, with large blackish-cinereous discal spot and interrupted submarginal bands.

Expanse $2\frac{1}{8}$ inches.

Bengal. In Coll. F. Moore.

Genus BARGOSA, Walk.

Petelia, H.-Schæff.

BARGOSA FASCIATA, n. sp. (Pl. XXXII. fig. 8.)

Female chocolate-brown, with numerous short transverse darker strigæ, those on the costa being blackish; four or five transverse diffused greyish fasciæ, the last two on the submargin of the fore wing crossed before reaching the costa, the others being straight; a grey-centred blackish discal spot; a marginal row of black dots. Underside pale greyish brown, with short brown strigæ, blackish discal spot, and broad marginal brown band; exterior margin with row of blackish dots.

Expanse $1\frac{6}{10}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

XANDRAMES, n. g., Moore.

Palpi small, densely pilose, porrect; third joint minute, conical, hardly visible. Antennæ rather long, pectinated in both sexes. Legs slender, smooth; hind tibiæ incrassated in the middle, with four apical spurs. Body robust. Abdomen long, extending to the length of hind wing. Wings large, broad: fore wing elongate, trigonal; costa convex towards the apex, which is somewhat acute; exterior margin very oblique, nearly straight: hind wing rounded exteriorly, slightly produced in the middle.

XANDRAMES DHOLARIA, n. sp.

Male and *female* dark cupreous brown: fore wing with numerous blackish short transverse strigæ along the costa, and others of a blackish brown and narrower, disposed closely, and broadly extending

along exterior border, the inner portion of the wing and posterior border being minutely speckled; a broad irregular-margined subapical transverse oblique white band bordered with interrupted broad black streaks, another streak similar to that anteriorly on its inner border running obliquely from the costa near the base, its exterior border posteriorly also having a similar straight streak, which is most prominent in the female; base of the wing greenish brown, the space before the band and at the apex being dark cupreous brown; some streaks along middle of posterior margin and a short basal streak black: hind wing uniform dark bright cupreous brown, palest in the female; with an indistinct discal wavy narrow band; exterior margin white anteriorly, with numerous short transverse dark strigæ thence to the abdominal angle. Palpi, sides of head, and a narrow band on side of thorax extending beneath, and streaks on legs black. Underside uniform dull cupreous brown, the whitish transverse band and border on hind wing being more prominent.

Expanse $3\frac{3}{4}$ inches.

Darjeeling. In Coll. A. E. Russell; F. Moore.

X. ALBOFASCIATA, n. sp. (Pl. XXXII. fig. 5.)

Male dark brown: fore wing dark saffron yellowish green, with thickly disposed more or less confluent transverse black strigæ, divided by an oblique transverse subapical irregular-margined yellowish-white narrow band, which is partly yellowish green on its lower outer half: hind wing dark fuliginous brown; exterior border yellowish anteriorly, with similar-coloured strigæ extending thence to abdominal angle. Palpi, head, and thorax rufous brown, which colour extends beneath in front of the thorax; sides of thorax in front black. Abdomen fuliginous brown. Underside uniform yellowish fuliginous brown; subapical band and border on hind wing clear yellow.

Expanse $2\frac{1}{2}$ inches.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

Genus OPTHALMODES, Guen.

OPHTHALMODES DIURNARIA, Guen. Phal. i. p. 284.

O. INFUSARIA, Walk. Cat. Lep. Het. B. M. xxi. Geom. p. 448. Silhet.

Genus ELPHOS, Guen.

ELPHOS HYMENARIA, Guen. Phal. i. p. 285, pl. 16. f. 4.

E. PARDICELLATA, Walk. ib. xxvi. Geom. p. 1544.

Genus GNOPHOS, Treit.

GNOPHOS MUSCOSARIA, Walk. ib. xxxv. Suppl. v. p. 1596.

Darjeeling. In Coll. W. S. Atkinson.

G. OBTECTARIA, Walk. ib. p. 1597.

Darjeeling. In Coll. W. S. Atkinson.

Fam. GEOMETRIDÆ.

Genus GEOMETRA, Linn.

GEOMETRA AVICULARIA, Guen. Phal. i. p. 342.

Geometra pennisignata, Walk. Cat. Lep. Het. B. M. xxii. Geom. p. 516.
Darjeeling.

G. VIRIDILUTEATA, Walk. ib. p. 515.

Darjeeling.

G. HALIARIA, Walk. ib. p. 518.

G. decoraria, Walk. ib. xxxv. Suppl. v. p. 1601.

Darjeeling.

G. DENTISIGNATA, n. sp.

Female subdued green, with several delicate reddish fleckles basally and short transverse strigæ exteriorly; a cinereous-outer-bordered white line from the middle of abdominal margin extending across both wings obliquely to within one-third of the costa; a reddish-bordered black dentate discal spot on the fore wing; costal margin yellow; an irregular transverse subbasal narrow indistinct reddish line. Underside pale green.

Expanse $2\frac{1}{8}$ inches.

Darjeeling. In Coll. W. S. Atkinson; F. Moore.

Closely allied to *G. haliaria*, Walk.

G. VITTATA, n. sp.

Male and *female* greyish green, with darker green, but not very prominent, transverse bands: fore wing with two straight subbasal bands and three oblique bands exterior to a discal spot, the second subbasal band joined posteriorly to the third, which with the outer two cross the hind wing, the three outer bands having a pale or whitish exterior border. Underside greenish yellow, with a darker discal spot and narrow outer band. Legs and antennæ yellowish.

Expanse, ♂ $1\frac{3}{8}$, ♀ $1\frac{3}{4}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

G. PLAGIATA, Walk. Cat. Lep. Het. B. M. xxxv. Suppl. v. p. 1602.

Darjeeling. In Coll. W. S. Atkinson.

G. USTA, Walk. ib. p. 1602.

Darjeeling. In Coll. W. S. Atkinson.

G. DENTATA, Walk. ib. xxii. Geom. p. 518.

"Larva feeds on *Zizyphus* and *Ixora*, attaching pieces of leaf to itself apparently for the purpose of hiding its pupa-case; but it commences adorning itself for some days before changing."—*A. Grote, Esq.*

Genus THALASSODES, Guen.

THALASSODES INAPTARIA, Walk. Cat. Lep. Het. B. M. xxvi. Geom. p. 1560.

Silhet.

T. MACRURARIA, Walk. ib. p. 1561.

Silhet.

T. MACARIATA, Walk. ib. p. 1562.

T. CÆLATARIA, Walk. ib. xxii. Geom. p. 552.

T. DISSIMULATA, Walk. ib. p. 551.

Larva feeds on *Terminalia catappa*.—A. Grote.

T. DISTINCTARIA, Walk. ib. xxxv. Suppl. v. p. 1607.

Darjeeling.

T. URAPTERARIA, Walk. ib. p. 1608.

Silhet.

T. DISSITA.

Geometra dissita, Walk. ib. xxii. Geom. p. 519.

T. OPHTHALMICATA, n. sp.

Female dull greyish green, with a few indistinct yellowish-brown fleckles; a narrow yellowish-brown band crossing the disk of both wings, which on the fore wing is nearly straight, and on the hind wing slightly curved; a similar-coloured partly upright subbasal line; a small blackish-brown discal spot on fore wing, and a larger brown-bordered grey eye-like discal spot on the hind wing. Underside pale greenish cinereous, with indistinct transverse discal band. Front of head and second joint of palpi above blackish brown.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. F. Moore.

T. SINUATA, n. sp.

Female clear grass-green above, whitish beneath: fore wing with the costa whitish; two medial widely separated transverse sinuous purple-red lines, between which is a small blackish discal spot: hind wing with a single similar sinuous outer line and discal spot. Marginal line purple red. Cilia and antennæ pale purple red.

Expanse $1\frac{2}{2}$ inch.

Bengal. In Coll. A. Grote, Esq.

“Larva feeds on *Boswellia serratifolia*.”—A. Grote, Esq.

Genus THALERA, Hübn.

THALERA BIFASCIATA.

Thalassodes bifasciata, Walk. Cat. Lep. Het. B. M. xxvi. Geom. p. 1562.

Silhet.

T. GLAUCARIA, Walk. Cat. Lep. Het. B. M. xxxv. Suppl. v. p. 1613.

Darjeeling.

T. ARGUTARIA, Walk. ib. p. 1614.

Genus BERTA, Walk.

BERTA CHRYSOLINEATA, Walk. ib. xxvi. Geom. p. 1621.

Genus COMIBENA, Hübn.

COMIBENA DIVAPALA, Walk. ib. xxii. Geom. p. 575.

"Larva feeds on *Lawsonia inermis* and on *Melaleuca cajuputi*."—
A. Grote, Esq.

C. SANGUILINEATA, n. sp.

Male green, exterior borders white: fore wing with four equidistant white spots below the costa, and a fifth spot below the basal one; from the apical penultimate spot proceeds a transverse narrow white band, which extends outward, passing downward, is again bent inward, and then curves to the posterior margin; a pale crimson submarginal line, which is bent beneath the white band, and is terminated by two blackish spots near the posterior angle: hind wing with a contorted transverse white band, anteriorly bordered by a short dark red exterior streak; a parallel submarginal narrow dark-red band diffusely terminated at the anal angle: both wings with a very narrow dark-red exterior marginal line; cilia yellow. Underside pale greenish white, with a marginal row of black dots: fore wing with an indistinct discal spot, and a short blackish streak from the posterior angle; a submarginal blackish-maculated line on hind wing.

Expanse $1\frac{4}{10}$ inch.

Bengal. In Coll. A. E. Russell.

C. HYALINATA, n. sp.

Male and *female* purplish hyaline: fore wing with an imperfect basal, and a subbasal band with a discal point, and an irregular submarginal band with an inner or reverse discal point, crossing both the wings, reddish brown, this colour also extending along the veins and outer marginal border line, dividing a row of white lunules; cilia brownish white. Body and antennæ reddish brown. Legs yellowish.

Expanse $1\frac{2}{10}$ inch.

Bengal. In Coll. A. E. Russell.

C. MACULATA, n. sp.

Pale green; costal line pale pinkish white, exterior marginal line pale brown. Cilia pale lemon-yellow. Both wings with a brown discal spot with white-speckled centre and yellow outer border; two subbasal and a transverse discal series of pale yellow spots, the latter each with a brown outer speck. Underside much paler, without

markings. Body beneath, antennæ, and legs yellowish. Front of head reddish.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

C. FENESTRARIA, n. sp.

Male very pale golden-yellow: both wings with a pale brown-bordered oblique subbasal double line, which extends by a short black streak on the costa and curves widely outward and then descends to the posterior angle, the middle of the wing being irregularly hyaline and marked only by a minute discal spot; a submarginal silvery-white line and two outwardly oblique silvery fasciæ from the costa before the apex; two small brown streaks on abdominal margin and another below the discal spot. Underside as above, but paler.

Expanse $1\frac{7}{8}$ inch.

Bengal. In Coll. A. E. Russell.

C. CHALYBEATA, n. sp.

Male pale green, with several delicate pale white short transverse strigæ: fore wing with two pale chalybeate upright transverse medial lines, which indistinctly cross the hind wing and conjoin in a slight crimson streak at the anal angle; base of fore wing and exterior border of both wings suffused with chalybeous. Costal margin and band across thorax and antennæ pale ochreous. Front of head and palpi beneath whitish. Palpi above pale pinkish ochreous. Underside pale greenish chalybeate-white.

Expanse $1\frac{1}{10}$ inch.

Darjeeling. In Coll. W. S. Atkinson; F. Moore.

Genus AGATHIA, Guen.

AGATHIA LYCÆNARIA.

Geometra lycænaria, Kollar, Hügel's Reis. Kasch. iv. p. 486.

G. albiangularia, Herr.-Schæff. Samml. exot. Schmett. pl. 61. f. 339.

♀. *Agathia discriminata*, Walk. Cat. Lep. Het. B. M. xxii. Geom. p. 591.

"Larva feeds on *Nerium odorum* and *Strophanthus dichotomus*."

A. HEMITHEARIA, Guen. Phal. i. p. 381.

Silhet.

A. HILARATA, Guen. Phal. i. p. 381.

Silhet.

A. CATENARIA, Walk. l. c. p. 591.

Larva feeds on *Nerium oleander*.—*A. Grote, Esq.*

A. QUINARIA, n. sp.

Male bright green, white beneath; bands reddish fawn-colour:

fore wing with a transverse basal band, an outwardly oblique hindward-bent medial band, and an oblique subapical band, which includes the exterior margin to the posterior angle and extends round a green apical ovate spot: hind wing with outer marginal band running parallel with posterior angle of fore wing, its inner border straight and sinuous and ascending to the abdominal margin above the anal angle; an elongate oval upper marginal green spot, beneath which is a white streak.

Expanse $1\frac{5}{8}$ inch.

Bengal. In Coll. A. E. Russell.

A. ARCUATA, n. sp.

Female bright green, whitish beneath: fore wing with fawn-coloured costa, basal streak, a narrow band from the costa before the middle which crosses to middle of posterior margin, the green space outside attenuated hindward and extending only half across the wing, its exterior border being sinuous, the outer space broadly fawn-coloured; apical green spot indented anteriorly on both sides; beneath this are two succeeding very small green spots and then a larger yellow spot: hind wing with a broad fawn-coloured margin; the green space occupying the base from the middle of its anterior margin and descending outward to the middle of the wing and then reascending to near the middle of abdominal margin, its border being sinuous; a green apical marginal patch and another above anal angle, both being partly divided; a short narrow yellow streak above the marginal angle.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell.

Fam. PALLYADÆ.

Genus EUMELEA, Duncan.

EUMELEA ROSALIA.

Phal. Geom. rosalia, Cram. Pap. Exot. iv. pl. 368. f. F.

Eumelea rosaliata, Duncan, Jardine's Nat. Hist. Libr. Exot. Moths, pl. 29. f. 4.

E. FELICIATA, Guen. *Phal.* i. p. 393.

Silhet.

E. AURELIATA, Guen. *Phal.* i. p. 394, pl. 22. f. 6.

Fam. EPHYRIDÆ.

Genus ANISODES Guen.

ANISODES OBLIVIARIA, Walk. *Cat. Lep. Het.* B. M. xxii. *Geom.* p. 643.

↪ *A. PLURISTRIARIA*, Walk. *ib.* xxvi. *Geom.* p. 1581.

A. PLYNUSARIA, Walk. Cat. Lep. Het. B. M. Geom. xxvi. p. 1581. Silhet.

A. HYRIARIA, Walk. ib. xxxv. Suppl. v. p. 1617.

Darjeeling.

A. SANGUINARIA, n. sp.

Male yellow: fore wing with several confluent crimson blotches and speckles at the base, and two larger submarginal blotches with contiguous confluent speckles to exterior margin; discal spot and largest blotches tinged with purple: hind wing speckled with crimson, and with larger blotches along exterior and abdominal margins; a purplish discal ringlet; a band on front of head and on thorax and base of abdomen crimson. Underside paler.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell.

A. PALLIVITTATA, n. sp.

Male and *female* pale yellowish testaceous, minutely blackish-speckled: fore wing with a testaceous discal spot and four obliquely transverse rather indistinct lunular lines, the third and fourth lines submarginal; the second, third, and fourth extending across the hind wing, the third with a parallel inner row of blackish spots; a marginal row of dark spots; cilia with a dark inner spot at the marginal angles. Palpi, front of head, and pectinations of male antennæ black. Underside paler, marked as above.

Expanse 2 inches.

Bengal. In Coll. A. E. Russell; F. Moore.

A. SIMILARIA, n. sp.

Male pale brownish cinereous, minutely but densely black-speckled: fore wing with an indistinct darker discal spot and four oblique bands, the two outer bands being submarginal, which with the third extends across the hind wing; both wings with a sinuous discal testaceous line, which has two small outer testaceous patches: a dentiform discal spot with testaceous border on hind wing: both wings with a marginal row of blackish spots; cilia black-speckled, and having a black inner spot at the marginal angles. Underside paler; discal sinuous line and spot on hind wing distinct; a well-defined dark marginal line; cilia with blackish spots.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. F. Moore.

A. DIFFUSARIA, n. sp.

Male yellow, with thickly disposed crimson speckles and strigæ. Both wings with a diffused testaceous-grey transverse discal streak with sinuous outer border and black points, from the middle of which proceeds a similar-coloured streak, which descends inwardly across the base of hind wing and the abdomen, and outwardly to the middle of exterior margin: an oblique subbasal indistinct testaceous-grey

band and small black spots on fore wing, and a similar-coloured sub-marginal streak on both wings; a black discal spot and marginal row of dots on both wings. Underside yellowish cinereous, with darker bands as above.

Allied to *A. pluristriata*.

Expanse $2\frac{7}{8}$ inches.

Bengal. In Coll. A. E. Russell; F. Moore.

A. ? VINACEARIA, n. sp.

Male vinaceous; palest at the base: both wings with three equidistant transverse indistinct crimson wavy lines, and darker marginal line; a blackish discal spot; cilia crimson. Front of head brown. Underside as above, but darker-coloured.

Expanse $1\frac{2}{10}$ inch.

Bengal. In Coll. F. Moore.

Fam. ACIDALIDÆ.

Genus DRAPETODES, Guen.

DRAPETODES MITARIA, Guen. Phal. i. p. 424, pl. 18. f. 6.

Anisodes platycerata, Walk. Cat. Lep. Het. B. M. xxvi. Geom. p. 1586.

Genus TRYGODES, Guen.

TRYGODES DIVISARIA.

Mecaria divisaria, Walk. ib. xxiii. Geom. p. 927.

T. VAGATA.

Mecaria vagata, Walk. ib. p. 927.

Genus HYRIA, Steph.

HYRIA BICOLORATA, n. sp.

Reddish fawn-colour, with a few short black streaks on the veins: fore wing with three equidistant transverse zigzag yellow bands commencing before the apex, each having an outer border and a medial parallel line of crimson joined by upper and lower longitudinal crimson streaks; some short crimson streaks below the apex: hind wing with a narrow outer transverse sinuous yellow band with crimson borders. Underside cinereous brown; bands indistinct.

Expanse $\frac{9}{10}$ inch.

Bengal. In Coll. A. E. Russell.

H. TRILINEATA, n. sp.

Male and *female* cinnamon-brown, with a few short transverse yellow strigæ; three equidistant transverse narrow orange-yellow slightly curved bands, the two outer bands crossing the hind wing. Cilia, antennæ, and head yellow. Underside paler; bands less defined.

Expanse 1 inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

H. ORNATA, n. sp.

Male greyish fawn-colour: exterior margin of both wings excavated below the apex and produced in the middle: fore wing with three transverse bright crimson-streaked and -bordered yellow wavy bands, which are broad at the costa and attenuate to the hind margin, the first and second bands contiguous and hardly separable, each somewhat blackish-bordered: hind wing with slight crimson basal band and outer yellow-spotted crimson wavy band with blackish inner border; an indistinct discal blackish spot and contiguous line. Abdomen with a reddish waist-band. Underside cinereous brown, with ill-defined paler bands as above.

Expanse $1\frac{1}{8}$ inch.

Bengal. In Coll. A. E. Russell.

H. ? PLURISTRIGATA, n. sp.

Cinnamon-brown; exterior margin sinuous: fore wing with two straight transverse medial and a narrow basal pale yellow bands with short transverse similar-coloured intervening streaks: hind wing with a single medial transverse yellow band and basal streaks: both wings with some orange-yellow submarginal streaks. Cilia pale yellow. Underside paler; markings less defined and whitish.

Expanse $\frac{7}{8}$ inch.

Bengal. In Coll. A. E. Russell.

Genus ACIDALIA, Treit.

ACIDALIA BICAUDATA, n. sp. (Pl. XXXIII. fig. 12.)

Male and *female* white: a transverse discal narrow wavy blackish-margined ferruginous band, with confluent fuliginous-brown exterior margin, which is slightly blackish-streaked, and having a black medial marginal dot on hind wing; a row of small dark brown transverse subbasal spots, and a few short strigæ on base of costa of fore wing. Palpi and front of head dark brown. Cilia white, with brown patches on fore wing. Hind wing bicaudate anteriorly.

Expanse 1 inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

A. ÆRATA, n. sp.

Male and *female* brassy yellow, with broad basal and marginal cinereous-brown bands with intervening cinereous speckles. Cilia broad, yellow. Antennæ, head, and front of thorax, abdomen, and legs yellow; thorax cinereous. Underside as above.

Expanse 1 inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

A. TEPHROSARIA, n. sp.

Male very pale whitish testaceous, with numerous short transverse narrow pale brown strigæ: fore wing with three equidistant black spots on the costa, from the outer of which proceed a trans-

verse oblique series of several black dots bordered exteriorly by a slight brownish line, the inner spots having a similar series of two or three dots; a medial subdued brownish transverse line contiguous to a similar-coloured discal spot: hind wing with a small discal spot, subdued inner line, and outer transverse row of black dots: both wings with an exterior marginal row of blackish dots. Underside paler; strigæ numerous along the costa and exterior margins; a blackish discal spot and adjoining sinuous line; submarginal line double, sinuous, and on the fore wing interspaced with yellow, that of the hind wing with three outer blackish spots; a marginal row of black dots. Tip of palpi and legs above blackish.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell.

Remark.—This species is allied to *Acidalia contigara*, Walk., from Northern India.

A. ?GEMMIFERA, n. sp.

Male reddish brown, studded with minute brilliant silver speckles; exterior margin of hind wing very deeply scalloped: fore wing with medial transverse irregular blackish line terminating on the hind margin in a red ringlet; apex of the wing white, with brown medial streaks and outer lunules; an indistinct blackish basal streak and discal spot: hind wing with a yellowish-white base and diffused discal band, the exterior margin being pure white and with a row of brown lunules; a slight reddish discal spot. Cilia of fore wing white anteriorly, the rest brown; that of the hind wing white, except at the tip of the angles, which are brown. Abdomen yellowish white, with brown anal patch. Underside paler, similarly marked, but not speckled.

Expanse 1 inch.

Bengal. In Coll. A. E. Russell.

Genus TIMANDRA, Dup.

TIMANDRA CONVECTARIA, Walk. Cat. Lepid. Het. B. M. xxiii. Geom. p. 800.

T. AVENTIARIA, Guen. Phal. ii. p. 3.

Silhet.

T. SUBOBLIQUARIA, n. sp.

Male pale greyish fawn-colour; a straight dark cinereous-brown band, with paler outer border crossing both wings from the costa one-third from the apex to the middle of abdominal margin: fore wing with some cinnamon-brown lunules at the base, and a black discal spot: a cinnamon-coloured submarginal wavy line to both wings, and a marginal row of black dots. Underside cinereous brown, marked as above, but of a dusky colour.

Expanse 1 inch.

Bengal. In Coll. A. E. Russell.

Genus SOMATINA, Guen.

SOMATINA PLURILINEARIA, n. sp.

Male and *female* pale testaceous yellow: both wings with two medial obliquely transverse equidistant wavy brown lines; the inner line retracted to the costa, between which and bordering the outer line are three paler parallel lunular lines, and on the fore wing near the costa is a small round black discal spot; three pale lunular lines crossing the base of the wings; two darker similar submarginal lines, and an outer row of small pure-white spots, those on the upper part of fore wing with a diffused blackish border, which colour also extends in a short longitudinal medial streak to the outer transverse line; exterior marginal line dark brown. Tip of palpi, spots on head, and collar in front of thorax dark brown.

Expanse $1\frac{1}{4}$ inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

S. ? PICTARIA, n. sp.

Male and *female* cinereous white: fore wing with a ferruginous-brown basal patch and two transverse bands, the outer band angulated before the costa, both confluent along the costal half in the female; between the bands is a small dentiform blackish discal spot; several delicate silvery-white evanescent lines crossing the wing, between which on the exterior border are two or three parallel pale cinereous-brown narrow bands, which are darkest at the apex: hind wing with two medial and two submarginal pale cinereous-brown bands, the latter with silvery-white outer margins. Palpi, head, and thorax ferruginous brown. Abdomen cinereous white. Legs cinereous brown. Underside paler: fore wing with cinereous-brown markings as above.

Expanse $1\frac{2}{10}$ inch.

Darjeeling. In Coll. W. S. Atkinson; F. Moore.

Genus ARGYRIS, Guen.

ARGYRIS MYSTICATA, Walk. Cat. Lep. Het. B. M. xxiii. Geom. p. 1617.

Darjeeling.

A. OCELLATA.

Caloptera ocellata, Friv. Herr.-Schæff. Samml. eur. Schmett. ii. p. 97, pl. 23. f. 125; Walk. Cat. Lep. Het. B. M. vi. Bomb. p. 1377.

Argyris ocellata, Walk. ib. xxii. Geom. p. 807.

A. ommatophoraria, Guen. Phal. ii. p. 13.

A. INSIGNATA, n. sp.

Female white; costa considerably arched from the base: fore wing with four cinereous obliquely quadrate spots on the costa, an irregular broad discal transverse band, which is traversed hindward by two short wavy streaks, and a submarginal series of small spots; the marginal line at the posterior angle blackish: hind wing suffused

with orange-yellow on the lower part of exterior border; a brownish-cinereous submarginal band, maculated anteriorly and traversed posteriorly by two parallel white lines, beneath which are three short black streaks; two similar-coloured streaks above it on the abdominal margin; on the exterior margin is a black conical white-speckled lower spot, and three smaller anterior contiguous cinereous spots, each with an outer narrow lunule. Palpi, front of head, and broad band on abdomen brownish cinereous. Cilia edged with cinereous. Underside white, with two narrow outer maculated bands, and basal patch on fore wing dark cinereous.

Expanse $1\frac{5}{8}$ inch.

Bengal. In Coll. A. E. Russell.

Fam. MICRONIDÆ.

Genus MICRONIA, Guen.

MICRONIA GANNATA, Guen. Phal. ii. p. 26.

Calcutta; Silhet.

M. ACULEATA, Guen. ib. pl. 13. f. 8.

Silhet.

M. FASCIATA.

Phal. *Geom. fasciata*, Cram. Pap. Exot. ii. pl. 104. f. D.

Phalena caudata, Fabr. Ent. Syst. iii. 2. p. 63.

Micronia caudata, Guen. Phal. ii. p. 25.

M. OBTUSATA, Guen. ib. pl. 5. f. 6.

M. SIMPLICIATA, n. sp.

Male and *female* silky white, paler beneath: fore wing with some short delicate cinereous strigæ along the costa; a cinereous discal streak and five transverse simple bands, the three outer crossing the hind wing; first and second band subbasal; third broadest, medial; the other two submarginal; a black marginal line to both wings, which at the medial angle on the hind wing has two narrow spots.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

M. SPARSARIA, Walk. Cat. Lep. Het. B. M. xxiii. *Geom.* p. 818.

Silhet.

M. STRIATARIA, Linn. (Clerck, *Icon.* pl. 55. f. 4; Walk. *ib.* p. 818.)

Genus MYRTETA, Walk.

MYRTETA PLANARIA, Walk. *ib.* p. 831.

Genus EROSIA, Guen.

EROSIA CERVINARIA, n. sp.

Male and *female* cinereous brown or fawn-colour.

Male. Fore wing dark cinereous brown, with very indistinct blackish discal spot, and transverse sinuous line with whitish border; costa and exterior marginal line reddish brown: hind wing very pale at the base; a white-speckled line at anal angle; exterior marginal line reddish brown; cilia blackish, edged with cinereous.

Female brownish fawn-colour on the fore wing; hind wing as in the male. Underside paler; costa reddish brown; a very indistinct dusky transverse discal line.

Expanse, ♂ $1\frac{2}{3}$, ♀ $1\frac{3}{5}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

Fam. CABERIDÆ.

Genus CABERA.

CABERA PLATYLEUCATA.

Acidalia platyleucata, Walk. Cat. Lep. Het. B. M. xxxv. Suppl. v. p. 1628.

C. MARGARITA, n. sp.

Male and *female* pearly white, minutely speckled with cinereous. Both wings with a black discal spot and an indistinct cinereous discal band. Costal line yellow. Antennæ, front of head, and legs brownish yellow.

Expanse $1\frac{3}{5}$ inch.

Bengal. In Coll. A. E. Russell; W. S. Atkinson.

Fam. MACARIDÆ.

Genus MACARIA, Curtis.

Syn. *Evarzia*, Walk.

MACARIA METAGONARIA.

Alzelina metagonaria, Walk. Cat. Lep. Het. B. M. xxvi. Geom. p. 1518.
Darjeeling.

M. PERSPICUARIA, n. sp.

Female pale yellowish testaceous, with thinly dispersed short delicate blackish strigæ: fore wing with two subbasal oblique wavy testaceous lines, the outer line crossing the hind wing; a submarginal narrow blackish double red band crossing both wings obliquely from below the apex to above anal angle, the apical portion of the inner end abruptly retracted to the costa one-third from the apex; the marginal space on the fore wing blackish: hind wing with an exterior medial reddish spot and contiguous upper streak: both wings with a narrow black marginal line. Two dorsal rows of black spots on abdomen. Underside paler, with minute strigæ as above, and the double band broadly bordered exteriorly with bright testaceous, and on the fore wing by a diffused blackish streak ascending from near

posterior angle to below the apex. Cilia black below the apex. Legs black-speckled.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell.

Remark.—Allied to *Evarzia ozararia*, Walk.

M. EMERSARIA, Walk. Cat. Lep. Het. B. M. xxiii. Geom. p. 925.

M. ELEONORA.

Phalæna eleonora, Cram. Pap. Exot. iii. pl. 288. f. E-G.

Macaria eleonorata, Guen. Phal. ii. p. 89.

Larva feeds on *Mimosa*-flowers.—*A. Grote, Esq.*

M. NORA, Walk. Cat. Lep. Het. B. M. xxiii. Geom. p. 934.

M. STRENIATARIA, Walk. ib. xxvi. Geom. p. 1646.

M. STRENUATARIA, Walk. ib. p. 1647.

M. PERMOTARIA, Walk. ib. xxiii. Geom. p. 929.

KRANANDA, n. g., Moore.

Male and female. Palpi porrect, slender, compressed, pilose; third joint small, cylindrical. Proboscis moderate. Antennæ slender, minutely serrated, set with fascicles of very fine hairs in the male, simple in the female. Legs short, rather stout, smooth; hind tibiæ incrassated and armed with four spurs. Body moderate; abdomen extending to the length of the hind wing. Wings long, broad exteriorly: fore wing with the costa nearly straight to two-thirds its length, where it is considerably arched to the end, the apex being falcate; exterior margin scalloped, produced in the middle and at the posterior angle: hind wing, anterior margin concave before the end; the apex much produced, being formed into an elongated process; exterior margin nearly straight, slightly scalloped.

KRANANDA SEMIHYALINA, n. sp.

Male and female greyish testaceous, darkest on the hind wing, with several short transverse darker strigæ: both wings hyaline to beyond the middle, with irregular exterior margin, that of the fore wing defined by a blackish line, the band with thinly dispersed transverse strigæ, and with a short darker streak medially on both the anterior and posterior margins; a submarginal row of whitish semidiaphanous lunular spots; exterior margin defined by a delicate dark line: base of fore wing partially covered with dark speckles, and bordered by a double subbasal transverse dark line; extreme base of hind wing with a dark streak. Cilia with a pale inner line. Palpi, front of head, stripe on vertex, and another on top of the thorax bright testaceous. Thorax and abdomen grey.

Expanse, ♂ $1\frac{7}{8}$, ♀ $2\frac{1}{4}$.

Bengal. In Coll. A. E. Russell.

Fam. FIDONIDÆ.

Genus STERRHA, Hübn.

STERRHA SACRARIA, Linn. (Guen. Phal. ii. p. 175).

Genus DOCIRAVA, Walk.

DOCIRAVA ÆQUILINEATA, Walk. Cat. Lep. Het. B. M. xxvi. Geom. p. 1635.

D. UVARIA.

Aspilates uvaria, Walk. ib. p. 1681.*Anaitis vastata*, Walk. ib. xxxv. Suppl. v. p. 1700.

Darjeeling.

Genus ASPILATES, Treit.

ASPILATES FALCONARIA, Walk. ib. p. 1665.

Darjeeling.

A. OBLIQUARIA, n. sp.

Male pale yellowish: fore wing minutely speckled with brown; a brown discal spot and two others obliquely beneath it; an oblique transverse straight discal dark brown paler-outer-bordered line and an interrupted parallel series of submarginal streaks: hind wing white, with two short brown streaks from abdominal margin, one medial, the other near anal angle: both wings with a marginal row of blackish dots. Underside yellowish white; closely speckled with brown along the costa and on the hind wing; both wings with two exterior reddish-brown lines and blackish discal spot and marginal dots.

Expanse $1\frac{6}{8}$ inch.

Bengal. In Coll. A. E. Russell.

Genus CAPRILIA, Walk.

CAPRILIA VESICULARIA, Walk. ib. Suppl. xxxv. p. 1569.

Male with a colourless vitreous spot near the base of the fore wing, which is blind and smaller in the female.

Expanse 1 inch.

Cherra Poonjee; Debrogur, Assam. In Coll. A. E. Russell; W. S. Atkinson.

C. SPECULARIA, n. sp. (Pl. XXXIII. fig. 11.)

Bright yellow, blotched and fleckled with pale ferruginous yellow, some of which have a darker central speck. *Male* with a vitreous oval spot at the base of the wing, which is smaller and blind in the female. Fore wing with dark ferruginous lunular marks at the base of the costa, an oblique spot on its middle, and another before the apex; beneath the latter is a pale ferruginous-yellow patch; on the posterior margin are two dark ferruginous outwardly ascending streaks, the inner one large and concave exteriorly: hind wing with

PROC. ZOOL. SOC.—1867, No. XLII.

two small dark ferruginous streaks on the anterior margin, and a lunular exterior marginal line. Palpi, a band in front of thorax, and a spot on the base of abdomen dark ferruginous.

Expanse $1\frac{3}{10}$ inch.

Assam. In Coll. W. S. Atkinson; F. Moore.

Remark.—Differs from *C. vesicularia* in having longer wings, which are narrower in proportion. The fore wing is not falcated at the tip, and the exterior margin is much more oblique. In the hind wing the anterior margin is convex to the extreme apex, whereas in *C. vesicularia* the apex is truncated, with the angle beneath.

Genus ZOMIA, Moore.

Syn. *Omiza*, Walk.

ZOMIA INCITATA.

Omiza incitata, Walk. Cat. Lep. Het. B. M. xxiv. p. 1084.

Genus OSICERDA, Walk.

Syn. *Celesdera*, Walk.

OSICERDA ALIENATA, Walk. ib. xxiv. Geom. p. 1084, ♂ ♀.

♀. *Celesdera schistifusata*, Walk. ib. xxvi. Geom. p. 1749.

Larva feeds on *Ixora*.—*A. Grote, Esq.*

O. COSTIMACULATA, n. sp.

Male pale greenish grey: fore wing minutely fleckled with brown; with rather large triangular costal spots before the apex; a small brown spot on posterior margin near the angle; cilium brown, except in the middle, where it is yellow: hind wing luteous; a short obliquely ascending brown streak at the abdominal angle. Abdomen luteous. Antennæ blackish, shaft luteous.

Expanse $1\frac{1}{3}$ inch.

Bengal. In Coll. A. E. Russell.

O. TRINOTARIA, n. sp.

Male pale greenish luteous: fore wing with three equidistant black costal spots; the first basal and small, the others larger and triangular, the costal border between them being fleckled with black: hind wing with a transverse cinereous discal line. Underside luteous, with several short transverse black strigæ; both wings with a discal streak and transverse black line. Antennæ, tibiæ, and tarsi blackish. Cilia blackish.

Expanse $1\frac{2}{10}$ inch.

Bengal (*Sherwill*). In Coll. F. Moore.

Genus NOBILIA, Walk.

NOBILIA TURBATA, Walk. Cat. Lep. Het. B. M. xxiv. Geom. p. 1098.

Genus MARCALA, Walk.

MARCALA IGNIVORATA, Walk. Cat. Lep. Het. B. M. xxvi. Geom. p. 1764.

Fam. ZERENIDÆ.

Genus RHYPARIA, Hübn.

RHYPARIA DUCTARIA, Walk. ib. xxiv. Geom. p. 1111.

R. MACULATA, n. sp.

Male cinereous white: fore wing suffused with cinereous in the middle; a row of cinereous-brown spots along each vein from the base, a submarginal and marginal row of contiguous spots; some quadrate paler spots on the costa, and smaller spots on posterior margin: hind wing with three transverse curved rows of similar spots. Head and palpi above blackish. Antennæ brown. Thorax and abdomen black-spotted. Underside paler, marked as above. Legs blackish above.

Expanse $1\frac{7}{10}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

R. TRANSECTATA, Walk. ib. p. 1112.

Genus PERCNIA, Guen.

PERCNIA FELINARIA, Guen. Phal. ii. p. 216, pl. 19. f. 1.

Genus NELCYNDA, Walk.

NELCYNDA RECTIFICATA, Walk. l. c. xxiv. Geom. p. 1142.

Genus ABRAXAS, Leach.

ABRAXAS TIGRATA, Guen. Phal. ii. p. 202.

A. TIGRATA, var.

Female white; costa and exterior border of both wings yellowish: fore wing with numerous small confluent blackish-cinereous spots at the base and on posterior margin; a large medial spot, exterior to and above which is a large confluent discal and costal spot; a submarginal recurved series of spots, and a rather broad marginal imperfectly maculated band interspersed with yellow: hind wing with several small spots along anterior border, a large discal spot, a submarginal series and marginal row of transversely narrow contiguous spots and strigæ. Head and body yellow, black-spotted above and beneath. Palpi with black tip. Legs blackish.

Expanse 3 inches.

Bengal (*Capt. J. Lind Sherwill*). In Coll. F. Moore.

A. MARTARIA, Guen. Phal. ii. p. 205.

A. LEOPARDINATA, Kollar, Hügel's Reis. Kasch. iv. p. 490; Guen. Phal. ii. p. 206.

A. PARDARIA, n. sp.

Male white, markings pure grey, darker beneath: fore wing with a large lower basal spot, a double incomplete medial band of irregular conjoined spots, and a submarginal medially interrupted more complete band, the base of which crosses the hind wing; a broad apical patch having a costal spot, which continues interruptedly along the exterior margin of both wings; the spots on posterior border of fore wing speckled with reddish brown. Tip of palpi, head, and antennæ black. Thorax ochreous. Abdomen whitish, with four rows of black spots; tuft yellow. Legs blackish. Body beneath ochreous.

Expanse $2\frac{1}{4}$ inches.

Bengal. In Coll. A. E. Russell.

A. PICARIA, n. sp.

Male and *female* white, markings blackish: fore wing with a blackish-spotted yellow basal patch and transverse discal recurved band; a medial series of less contiguous spots, including a larger discal spot, which is somewhat yellow; some small medial submarginal spots: hind wing with a transverse discal more or less yellow double maculated band, a small discal spot and a few spots along abdominal margin: both wings with lunular marginal spots. Top of palpi and front of head black; thorax and abdomen yellow, with black spots, the latter with dorsal and two lateral rows. Legs blackish.

Expanse $1\frac{3}{4}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

A. IRRORATA, n. sp.

Male yellow: fore wing minutely irrorated with black; base of wing orange-yellow; an oblique transverse narrow orange-yellow indistinct band: hind wing white, with a small blackish discal spot and outer maculated line. Head and thorax orange-yellow, spotted with black. Abdomen pale cinereous, with dorsal row of blackish spots. Antennæ brown. Underside pale dull yellow; speckles on fore wing, discal spots, and transverse lines on both wings cinereous brown.

Expanse $1\frac{1}{2}$ inch.

Darjeeling. In Coll. A. E. Russell.

A.? *LAPSARIATA*, Walk. Cat. Lep. Het. B. M. xxiv. Geom. p. 1121.

A.? *TENEBRARIA*, n. sp.

Male and *female* pale dull green: fore wing densely fleckled with blackish brown, variously interspersed with white fleckles; four obliquely transverse equidistant medially interrupted ill-formed black-fleckled bands, the outer or submarginal band with a row of white spots: hind wing pale yellowish cinereous, with pale cinereous fleckles; a blackish-brown discal spot and two outer narrow lunular bands: exterior margins with a row of lunular spots. Cilia alter-

nate black and pale yellow. Underside pale, markings as above, but more confluent. Head and thorax greenish brown. Abdomen cinereous, with brown bands. Legs blackish, spotted.

Expanse, ♂ $2\frac{1}{4}$, ♀ $2\frac{5}{8}$ inches.

Bengal. In Coll. A. E. Russell.

VINDUSARA, n. g., Moore.

Palpi moderate, flat, porrect, hardly extending beyond the head, densely pilose beneath; third joint minute, conical. Legs smooth; hind tibiæ very long, pilose at the side, incrassated in the middle (less so in the female) with two pairs of spurs. Antennæ broadly pectinated to within one-third their length in the male, simple in the female. Body robust; abdomen extending rather beyond the hind wing in the male, and tufted. Wings large, broad; fore wing trigonal; exterior margin very oblique, posterior angle rounded: hind wing rather produced at the apex and in the middle of exterior margin, which is angled anteriorly.

VINDUSARA COMPOSITATA. (Pl. XXXII. fig. 6.)

Abraxas compositata, Guen. Phal. ii. p. 207.

V. METACHROMATA.

Abraxas metachromata, Walk. Cat. Lep. Het. B. M. xxiv. Geom. p. 1122.

Fam. LARENTIDÆ.

Genus OPORABIA, Steph.

OPORABIA MACULARIA, n. sp.

Female rufous grey, slightly brown-speckled: fore wing with four series of three or four contiguous narrow brown transverse lines, with darker brown spots along the veins; exterior margin with a line of double spots: hind wing white. Underside paler: fore wing greyish cinereous. Fore legs blackish above, with white spots.

Expanse $1\frac{5}{8}$ inch.

Bengal. In Coll. A. E. Russell.

Genus LARENTIA, Dup.

LARENTIA VARIEGATA, n. sp.

Male dull sap-green, whitish-speckled: fore wing with a broad medial obliquely transverse white sinuous-bordered band, containing several parallel blackish lunular lines, their interspaces varied blackish ochreous and green; base of wing and exterior border with several transverse whitish-bordered black lunular lines with varied-coloured interspaces; a well-defined submarginal lunular line: hind wing cinereous brown, with darker outer border, narrow white submarginal lunular lines, and dark brown marginal lunules.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

L. ÆRATA, n. sp.

Male and *female* pale glossy brassy yellow: fore wing numerous and minutely speckled with dark brown; three equidistant oblique transverse wavy brassy-yellow lines with blackish borders, the interspaces each with a transverse row of purplish-grey spots; a distinct black discal spot: hind wing cinereous brown, with a slight brassy gloss; a submarginal and marginal row of pale yellowish lunules. Cilia brassy yellow, alternated with dark brown. Underside paler; both wings minutely speckled and with greyish white spots: fore wing cinereous brown basally: hind wing with a distinct black discal spot and narrow band. Palpi, antennæ, thorax, and legs yellow, numerous black-speckled. Abdomen cinereous brown above, yellowish beneath.

Expanse $1\frac{3}{8}$ inch.

Darjeeling. In Coll. W. S. Atkinson; F. Moore.

Genus *EUPITHECIA*, Curtis.*EUPITHECIA SEMICIRCULATA*, n. sp.

Male and *female* fuliginous brown, somewhat fleckled: fore wing with two medial transverse black lunular whitish-margined lines, within which is a quadrate anteriorly-speckled yellowish costal patch, contiguous to which is a black discal spot; a marginal row of black lunules with testaceous borders: hind wing with a large black round evanescent spot with a semicircular white-outer-bordered line at the anal angle; a black discal dot and contiguous transverse streaks; a testaceous line with black lunular streaks along the abdominal and exterior margins. Underside paler, indistinctly marked as above. Antennæ of the female white-spotted; antennæ in the male broadly but thinly bipectinated to near the apex.

Expanse $\frac{9}{10}$ inch.

Darjeeling. In Coll. W. S. Atkinson; F. Moore.

E. FERRUGINARIA, n. sp.

Male and *female* greyish ferruginous: fore wing with three bright ferruginous transverse irregular zigzag equidistant bands, the two inner bands traversed by a single and the outer band by a partly double yellow lunular line; base of wing, discal spot and adjoining streaks to the costa, and a streak on exterior margin black; a paler submarginal ferruginous and yellow band, and a marginal row of black dots: hind wing with a black discal dot and marginal row of dots; a submarginal transverse ferruginous and yellow lunular band. Head, thorax, and base of abdomen black.

Expanse $\frac{7}{8}$ inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

E. COSTIPANNARIA, n. sp.

Female greyish testaceous, duller beneath: fore wing with an oblique basal black patch and a triangular patch on the middle of the costa, both with pale borders; exterior margin with some small black

spots below the apex and above the posterior angle, bordered by an inner whitish line; some very indistinct whitish lines obliquely crossing the disk: hind wing pale cinereous along the anterior border; some dark streaks from abdominal margin, and a whitish line extending upward from middle of posterior margin. Cilia whitish, with blackish inner line and streaks. Palpi, head, and thorax black. Abdomen testaceous. Underside: fore wing with small black oblique discal spot and spots on the middle of the costa: hind wing with discal spot and outer transverse indistinct line of points.

Expanse $1\frac{1}{10}$ inch.

Bengal. In Coll. A. E. Russell.

Genus SAURIS, Guen.

SAURIS DECUSSATA, n. sp. (Pl. XXXIII. fig. 10.)

Female bright green: hind wing and abdomen uniform cinereous brown: fore wing with a medial transverse band of diffused black lunular lines enclosing a small discal spot; base of the wing and exterior border with narrow black less-distinct lines; two short longitudinal black streaks below the apex; a marginal row of black-pointed lunules, and an intermediate outer row of marks like the letter X, which cross the cilia; costal margin ochreous. Antennæ ochreous, black-spotted. Palpi, head, and thorax bright green. Underside cinereous brown, with indistinct blackish costal streaks, discal mark, and outer transverse wavy line. Legs black, white-spotted.

Expanse $1\frac{3}{8}$ inch.

Bengal. In Coll. A. E. Russell.

Genus MELANIPPE, Dup.

MELANIPPE CATENARIA, n. sp. (Pl. XXXIII. fig. 9.)

Male ferruginous brown: fore wing with a broad partly transverse oblique whitish medial band, containing several blackish lunular parallel lines, the middle line being chain-like; exterior border with a series of white spots below the apex, a large medial spot, and a smaller spot at the posterior angle: hind wing white, with short blackish-cinereous lunular streaks from abdominal margin; an exterior marginal lunular line. Palpi, head, and thorax ferruginous brown; two black metallic tufts on lower part of thorax. Abdomen white, with transverse cinereous streaks. Cilia alternate white and brown. Underside cinereous white: fore wing with three cinereous-brown transverse discal lines, and broad marginal band with a submarginal row of white dots: hind wing with a curved discal spot and three indistinct cinereous-brown outer sinuous lines, a submarginal line, and darker lunular marginal line.

Expanse $1\frac{3}{4}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

M. CUPREATA, n. sp.

Male glossy cupreous brown: fore wing with several basal trans-

verse white sinuous lines, exteriorly bordered by a dark brown indistinct band, their interspaces being white-speckled; exterior border of the wing varied with yellow and white lunules and speckles, and traversed by a submarginal double series of brown dots: hind wing pale cinereous brown. Underside paler; hind wing somewhat yellow exteriorly; both wings with indistinct whitish lunular submarginal lines and dots.

Expanse $1\frac{1}{4}$ inch.

Bengal. In Coll. F. Moore.

Genus ANTICLEA, Steph.

ANTICLEA CUPREARIA, n. sp.

Male and *female* pale cupreous brown: fore wing with two narrow subbasal transverse darker brown bands, the first band with an outer and the next with an inner black-bordered line, the interspace being greyish and traversed by three darker lines; across the disk is a narrow line, which is posteriorly lunular and anteriorly straight and black-bordered, and is indented before the costa; across the middle of the wing and exterior border are some indistinct pale narrow blackish-brown irregular lines: hind wing pale cupreous white, with a narrow brown marginal line and brown cilium from anal angle. Abdomen with a black waist-band.

Expanse $1\frac{4}{10}$ inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

Genus COREMIA, Guen.

COREMIA MEDIOVITTARIA, n. sp.

Male and *female* cinereous brown: fore wing with a rather broad medial transverse dark brown band, narrowest hindward, and which is traversed by two black lines with grey interspace; base and outer border of the wing with transverse pale lunular lines; a submarginal row of indistinct small whitish spots: hind wing pale cinereous, with three or four bright-brown marginal narrow lunular bands.

Expanse 1 inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

Genus SCOTOSIA, Steph.

SCOTOSIA MINIOSATA, Walk. Cat. Lep. Het. B. M. xxv. Geom. p. 1354.

S. ATROSTIPATA, Walk. ib. p. 1354.

S. VITREATA, n. sp.

Male and *female* dark vitreous green, with a cupreous gloss, with numerous short transverse black strigæ: fore wing with the veins slightly yellowish and speckled; two medial transverse irregular sinuous black lines with chalybeate outer borders, between which is a black discal ringlet; the space at the base of the wing and across

the disk pale, the latter with a wavy transverse lunular chalybeate band with a glossy cupreous border: hind wing with two transverse sinuous blackish lines, and a submarginal lunular chalybeate line with cupreous border: both wings with black lunular marginal line. Underside dark cinereous, with greenish tinge; both wings with slightly apparent blackish discal spot and outer sinuous line. Fore legs black-streaked. Antennæ ferruginous, setaceous in both sexes.

Expanse, ♂ 2, ♀ $2\frac{1}{4}$ inches.

Bengal. In Coll. A. E. Russell; F. Moore.

S. LATIVITTARIA, n. sp.

Male and *female* dark cinereous brown: fore wing with a broad dark brown transversely curved medial irregularly-sinuous-margined whitish-bordered band; some diffused dark brown transverse basal lunular lines; a white-pointed submarginal sinuous dark brown line and a short apical sinuous streak; marginal line dark brown alternated with small white spots: hind wing with an indistinct brown discal line with whitish spots, a submarginal row of white spots, and brown marginal line alternated with white spots. Underside duller cinereous brown. Both wings with a transverse discal whitish-spotted lunular indistinct line and a submarginal row of white spots.

Expanse $1\frac{3}{4}$ inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

S. OBLIQUISIGNATA, n. sp.

Male cupreous brown; hind wing orange-red: fore wing with a transverse subbasal straight cinereous narrow line; a broad transverse medial blackish pale-bordered band, which contains an oblique oval discal ringlet, and is traversed within by three parallel reddish lines along the outer, which is sinuous; on each side of the band are three or four parallel lines, those of the inner side being reddish, of the outer cinereous; a submarginal cinereous line bordered exteriorly by blackish; a black lunular marginal line; veins of the wing reddish-lined throughout: hind wing with cinereous brown broadly along abdominal margin, below which are three black marginal lunules; a narrow brown discal ringlet. Underside pale orange yellow, base and apical patch on fore wing and discal streaks cinereous brown. Cilia cupreous brown.

Expanse $1\frac{3}{4}$ inch.

Darjeeling. In Coll. A. E. Russell.

S. VENIMACULATA, n. sp.

Male glossy luteous brown: fore wing with numerous blackish-brown uniform narrow transverse bands, which are somewhat sinuous anteriorly, and lunular posteriorly, those forming the usual broad medial band defined by being blackest; veins along exterior border with short luteous-white streaks, and a submarginal row of similar streaks: hind wing with several indistinct darker rather broad exterior bands; veins with short luteous-white streaks: marginal line

to both wings luteous white. Underside paler, indistinctly marked as above.

Expanse $2\frac{1}{8}$ inches.

Bengal (*Sherwill*). In Coll. F. Moore.

ARICHANNA, n. g., Moore.

Palpi small, compressed, moderately clothed with long hairs; third joint minute, conical. Antennæ—male bipectinated, the pectinations formed of fascicles of fine short hairs; female simple. Legs slender, smooth; mid tibiæ with one pair and hind tibiæ with two pairs of long spurs. Abdomen slender, tufted at the apex, not reaching to the angle of the hind wing. Fore wing elongate-trigonal; costa straight at the base, arched near the end; apex angled; exterior margin oblique, slightly convex; hind margin nearly straight. Hind wing convex exteriorly, slightly scalloped.

ARICHANNA PLAGIFERA.

Scotosia plagifera, Walk. Cat. Lep. Het. B. M. xxxv. Suppl. v. p. 1686.

Darjeeling.

A. RAMOSA.

Scotosia ramosa, Walk. ib. p. 1688.

Darjeeling.

A. TRAMESATA, n. sp. (Pl. XXXIII. fig. 2.)

Male and *female* pale yellowish cinereous: fore wing with numerous short transverse blackish-brown confluent strigæ; a yellowish longitudinal medial line from the base to exterior margin, crossed by two narrow white contorted transverse inner bands, and outer sub-marginal lunular line; an oblique yellowish streak from the apex to the discal band; strigæ thinly disposed along the outer margin of discal band; a distinct discal spot formed of confluent black strigæ; exterior margin with a row of black lunular spots: hind wing with indistinct discal spot and outer transverse strigæ; a row of marginal lunules. Body dark-speckled. Underside paler, the dark markings of fore wing cinereous brown: hind wing thickly speckled with brown, discal spot distinct. Exterior margins with black spots. Cilia alternated with black.

Expanse $1\frac{5}{8}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

Remark.—This species is allied to both *A. ramosaria* and *A. plagifera*.

A. MACULATA, n. sp.

Female yellowish white: fore wing with several obliquely transverse bands of large white spots with some smaller spots parallel between them, the whole of the interspaces being deep black, the spots divided longitudinally into three distinct series: hind wing

cinereous white, with a small blackish discal spot, narrow transverse oblique straight subbasal, recurved discal, and irregular submarginal bands, and wavy marginal line. Cilia white, alternated with black. Base of palpi, front and top of thorax, dorsal line, and lateral bands on abdomen black. Antennæ black. Underside cinereous white; markings as above, but more subdued. Body and legs pale; legs with black spots.

Expanse $1\frac{5}{8}$ inch.

Bengal. In Coll. A. E. Russell.

A. MARMORATA, n. sp. (Pl. XXXIII. fig. 3.)

Male and *female* white, with thinly dispersed short reddish strigæ; fore wing with an oblique basal, double subbasal, and submarginal transverse ferruginous bands, a streak (which also forms a discal ringlet) longitudinally from the subbasal band to exterior margin, where there are some pointed lunules of the same colour: hind wing with a subbasal oblique band and narrow wavy ferruginous discal line, the latter with lower exterior border and pointed lunules of the same colour: exterior margins with a narrow wavy ferruginous line. Body ferruginous; spot on tegulæ and dorsal streak on abdomen white. Underside pale cinereous brown, with slightly apparent blackish discal and submarginal streaks on fore wing, narrow discal spot, subbasal and outer transverse lines on the hind wing, and wavy marginal line. Antennæ and legs blackish-streaked.

Expanse $1\frac{1}{4}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

Genus PSYRA, Walk.

PSYRA CUNEATA, Walk. Cat. Lep. Het. B. M. xxi. Geom. p. 483.

P. ANGULIFERA.

Scotosia angulifera, Walk. ib. xxxv. Suppl. v. p. 1687.

Darjeeling.

P. SIMILARIA, n. sp. (Pl. XXXIII. fig. 1.)

Male pale greenish saffron-yellow: fore wing with three submarginal jet-black spots; the first small, triangular, and near the apex; the next nearly midway beneath, elongated, bidentated exteriorly; the third the largest and near the posterior border, triangular with the angle pointing to the base, and slightly excavated exteriorly; a transverse discal series of black dots, a distinct discal spot; three subbasal transverse spots, the lowest triangular, and a single spot at the base: both wings with a marginal row of black dots, most distinct on the fore wing: hind wing pale cinereous yellow, with cinereous speckles and discal spot, and two outer curved cinereous bands, the inner band narrow, the outer distinct. Palpi and three spots on top of the thorax black.

Expanse $1\frac{1}{2}$ inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

Remark.—Allied to *P. cuneata*, but may be distinguished by the exterior margin of both wings not being angled in the middle, and by the cinereous bands of the hind wing being curved and not straight and broadly diffused as in *P. cuneata*.

GANDARITIS, n. g., Moore.

Male. Palpi ascending, pilose, compressed; third joint small, conical. Thorax moderate. Abdomen long, attenuate. Antennæ simple. Wings very large, elongated, broad: fore wing arched; apex slightly falcate; exterior margin oblique, posterior angle rounded; hind margin straight: hind wing produced, extending considerably beyond the posterior angle of fore wing; anterior margin convex, apex rounded. Legs smooth, long; hind tibiæ with four apical spurs.

GANDARITIS FLAVATA, n. sp.

Male yellow: fore wing with a ferruginous-yellow dark-brown-bordered medial transverse band, the inner border oblique and wavy, the outer border extending obliquely towards the exterior margin and then retracting to the posterior margin close to the inner border; both borders of the band with a contiguous less-distinct brown line, and near the costa is a brown discal spot; base of the wing streaked with ferruginous; a brown lunular line from the angle of the band to the apex of the wing, beneath which the exterior margin is cinereous; a submarginal pale lunular line diffused within beneath the angle of the band with yellowish ferruginous: hind wing with a ferruginous medial transverse lunular line; exterior border suffused with ferruginous. Palpi and antennæ brown. Head and body ferruginous yellow. Underside much paler: fore wing with an oblique brown streak from middle of the costa, and another below the apex: hind wing speckled with brown; a blackish patch on the middle of anterior margin, and another above the anal angle. Legs partly blackish brown.

Expanse 3 inches.

Bengal. In Coll. A. E. Russell.

Genus CIDARIA, Treit.

CIDARIA SUBSTITUTA, Walk. Cat. Lep. Het. B.M. xxxv. Suppl. v. p. 1691.

Darjeeling.

C. INTERPLAGATA, Guen. Phal. ii. p. 461.

Darjeeling.

C. INEXTRICATA, Walk. *l. c.* p. 1691.

Darjeeling.

C. ARGENTILINEATA, n. sp. (Pl. XXXIII. fig. 5.)

Male and *female* cupreous brown: fore wing with a silvery-white transverse subbasal narrow curved line, near which is a double slightly

sinuous line; three submarginal wavy lines, the two outer lines slightly diffused, and an outer imperfect series of lunules; two short lines at the apex; submedian veins slightly lined with white: hind wing and abdomen dark cinereous. Underside cinereous brown, with indistinct whitish transverse submarginal lunular lines and marginal row of spots.

Expanse $1\frac{3}{8}$ inch.

Darjeeling. In Coll. A. E. Russell; F. Moore.

C. AURANTIARIA, n. sp. (Pl. XXXIII. fig. 8.)

Male and female dark brown; hind wing bright orange-colour: fore wing with two pale cinereous-yellow subbasal transverse lines; an oblique line from the costa beyond extending to below the middle, where it is indented opposite the exterior margin, returning again to the costa at one-third from the apex; a similar oval line beneath this on the posterior margin, both being outwardly bordered by a parallel line and a submarginal lunular line, the latter extending outward to the costa close to the apex; another line curving from the apex to the middle of exterior margin, beneath which to the posterior angle are some longitudinal streaks: hind wing with cinereous-brown abdominal margin and anal streaks, where also the exterior margin has a blackish line. Abdomen cinereous. Underside paler: fore wing with a transverse subapical diffused whitish band.

Expanse $1\frac{7}{12}$ inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

C. SIGNATA, n. sp.

Male and female dark cinereous brown: fore wing with a broad transverse medial band, which is exteriorly constricted below the middle, and having a narrow white lunular bordered line; within the band is a black short recurved transverse discal streak; at the base of the wing and contiguous to the outer border of the band are some transverse paler white lunular lines; a straight submarginal white line, and a short longitudinal white streak below the apex; a marginal row of double dots with white borders: hind wing and underside paler cinereous brown.

Expanse $1\frac{2}{10}$ inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

C. VIRIDATA, n. sp.

Male and female bright sap-green: fore wing with a broad medial transverse white-bordered cinereous black band having two inner parallel lunular black-bordered green lines, between which is a green discal spot; base of the wing and exterior border partly blackish, and with transverse blackish lunular lines: hind wing pale cinereous brown. Cilia pale ochreous, alternated on the fore wing with black. Abdomen cinereous brown.

Expanse $1\frac{9}{10}$ inch.

Darjeeling. In Coll. W. S. Atkinson; F. Moore.

C. RETICULATA, n. sp.

Female blackish brown: fore wing with several prominent pale chocolate-brown irregular bands, each with a yellow-bordered line, the bands disposed transversely, those at the base intersecting each other and joined to the outer by a longitudinal subcostal band, which latter and the outer band contains small dark brown spots with yellow borders, the outer band emitting a lower inner point, and outwardly narrow yellow streaks to the exterior margin of the wing: hind wing cinereous, with three indistinct narrow outer brown bands. Cilia yellow, with brown points and inner line. Body dark brown, with cinereous streaks. Underside cinereous brown, darkest at the base, with narrow blackish-brown sinuous discal band with narrow white outer border.

Expanse $1\frac{2}{3}$ inch.

Bengal. In Coll. A. E. Russell.

C. CINEREATA, n. sp.

Male and *female* cinereous white: fore wing with a dark ferruginous-brown base and apical patch, the latter somewhat blackish and crossed by a whitish lunular line, a transverse post-medial black-speckled ill-defined band with white lunular bordered line; middle of the wing minutely black-speckled; a small black discal spot; a short ferruginous streak ascending from a black streak from posterior margin near the angle: both wings with marginal brown spots. Cilia pale yellow. Palpi, head, and thorax ferruginous brown. Abdomen cinereous. Underside paler; base and apex of fore wing blackish cinereous, with oblique subapical pale band: hind wing with a discal dot and indistinct outer line.

Expanse $1\frac{1}{4}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

Remark.—Allied to *Cidaria russata*.

C. CALAMISTRATA, n. sp. (Pl. XXXIII. fig. 6.)

Male and *female* dark ferruginous brown, slightly white-speckled: fore wing with a broad medial band with sinuous black borders, the outer border margined with white, the band being blackish at the sides and white along the middle, the colours being separated by a transverse sinuous black line with white outer margin; on the white ground is a short black discal streak and some lower ringlet marks; near the base of the wing is a narrow blackish band, and below the apex are some black patches traversed by a sinuous white line; a black exterior marginal line: hind wing pale cinereous white, with slight cinereous exterior border and darker marginal line. Cilia alternate brown and cinereous white. Underside cinereous white; exterior border of fore wing, an oblique broad subapical streak, and contiguous discal spot blackish cinereous: hind wing with a slight cinereous discal spot, outer sinuous line, and straight marginal line.

Expanse $1\frac{3}{10}$ inch.

Bengal. In Coll. W. S. Atkinson; F. Moore.

Remark.—Allied to *Cidaria russata*.

C. SUBAPICARIA, n. sp.

Male and *female* ferruginous brown: fore wing with a narrow blackish transverse subbasal band, and a broad medial band, the inner border of which is upright, the outer border irregularly extending towards the exterior margin; a short whitish oblique subapical streak and a ferruginous-white patch at the apex; a submarginal series of short black longitudinal streaks; a black marginal line; a medial band with some indistinct black markings and a discal spot: hind wing pale cinereous, with brown marginal line and discal dot. Underside—fore wing blackish cinereous, with a bent subapical whitish oblique streak: hind wing paler, with a blackish discal dot and outer sinuous indistinct line. Legs with whitish spots.

Expanse $1\frac{3}{8}$ inch.

Darjeeling. In Coll. A. E. Russell; W. S. Atkinson.

Remark.—Allied to *Cidaria russata* of Europe.

C. TRISIGNATA, n. sp.

Male dark brown: fore wing cinereous-fleckled, with several indistinct transverse sinuous black lines; a basal and a broad medial transverse bands with black-bordered sinuous line and whitish outer margin; in the middle band are three black-divisioned whitish discal spots; a cinereous streak at the apex and another at the costal end of the band indistinctly joined by a lower whitish streak; marginal line black, with some white spots: hind wing cinereous brown, with indistinct discal spot; anterior border and two submarginal lunular lines cinereous white; marginal line as on fore wing.

Expanse $2\frac{1}{8}$ inches.

Bengal. In Coll. A. E. Russell.

C. CHALYBEARIA, n. sp.

Female cinereous brown: fore wing chalybeate-speckled along the exterior border, and in patches across the disk and at the base; a broad medial transverse band formed of blackish diffused lunular lines, the middle somewhat paler and containing a black dentate discal mark, before which is a white spot; base of the wing and exterior border with indistinct blackish lunular lines; a submarginal row of white lunules with black points: hind wing paler, with a short whitish lunular streak from the anal angle. Underside uniform cinereous brown, with a submarginal row of white dots on both wings.

Expanse $1\frac{5}{8}$ inch.

Darjeeling; Cherra Poonjee. In Coll. A. E. Russell; F. Moore.

C. OBSCURATA, n. sp. (Pl. XXXIII. fig. 7.)

Male dark luteous brown: fore wing with a broad medial transverse darker band with narrow yellowish black-bordered lines, the inner line bent inward below its middle, the outer line lunular with the points extending inwardly along the veins; within the band are

two black transverse lunular lines and a medial series of circular marks; two similar transverse lines near the base of the wing, and two submarginal irregular but less distinct lines, the latter black-streaked before the apex and along the outer border; some black spots between the second and third basal lines: hind wing cinereous brown basally, partly luteous exteriorly, with submarginal lunular luteous lines. Underside paler; costa and subapical patch luteous yellow; two black spots before the apex: hind wing with a black discal spot and indistinct outer sinuous lines.

Expanse $1\frac{3}{4}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

C. CERVINARIA, n. sp.

Male blackish fawn-colour: fore wing with a dark velvety-brown transverse subbasal and a discal band, both with irregular margins and with a narrow yellow-bordered line; some similar-coloured spots between the bands posteriorly and others anteriorly on the costa; a small similar spot on the costa near the base, and three others before the apex; interspace before and exterior to the discal band diffused with ferruginous: a dark marginal line to both wings: anal tuft yellowish. Underside paler: fore wing with some blackish costal spots and pale-bordered discal transverse line: hind wing with a black discal spot and outer sinuous pale-bordered line. Cilia brown, with yellowish inner line.

Expanse $1\frac{1}{2}$ inch.

Bengal. In Coll. A. E. Russell.

C. AURATA, n. sp.

Male bright golden-yellow: fore wing with a broad basal and a posteriorly narrow medial transverse dark brown band, bordered by a pure-white sinuous line and traversed by some narrow white streaks; exterior border of the wing dark brown, with a yellow streak below the apex and a spot on middle of exterior margin; a submarginal and a marginal line of pure-white lunules: hind wing cinereous yellow, with some indistinct rows of whitish spots. Underside duller-coloured; bands on the fore wing indistinct, hind wing with several transverse white-speckled lines, and a marginal row of white spots to both wings.

Expanse $1\frac{1}{3}$ inch.

Bengal. In Coll. A. E. Russell; F. Moore.

Fam. EUBOLIDÆ.

Genus ANAITIS, Dup.

ANAITIS MEDMARIA.

Orsonoba medmaria, Walk. Catal. Lep. Het. B. M. xxvi. Geom. p. 1521.

Eubolia reciproca, Walk. ib. xxxv. Suppl. v. p. 1698.

Darjeeling.

Tribe CRAMBICES.

Fam. GALLERIDÆ.

Genus PROPACHYS, Walk.

PROPACHYS NIGRIVENA, Walk. Cat. Lep. Het. B.M. xxvii. p. 7.

P. LINEALIS, n. sp. (Pl. XXXIII. fig. 17.)

Male yellow. Labial palpi massive, broad, compressed, squamose; joints compact. Maxillary palpi slender, clavate, slightly pilose. Proboscis stout. Antennæ setulose. Body robust; abdomen extending beyond the hind wings. Legs stout; fore tibiæ fringed beneath; middle and hind legs long; hind tibiæ with four long spurs. Fore wings elongated, narrow, slightly rounded at the apex; hind wing broad, apex acute. Fore wings pale yellow, with a blackish-red narrow line between each vein: hind wings pale golden-yellow. Cilia whitish, that of the fore wing with a blackish-red inner line.

Expanse $1\frac{1}{2}$ inch.

Darjeeling. In Coll. W. S. Atkinson; F. Moore.

P. FASCIALIS, n. sp.

Female. Fore wing bright chrome yellow; a narrow black line along the exterior veins, and a similar line between each vein, the black forming a suffused fascia from the middle of the outer margin; a black line from the base of the wing below the cell: hind wing and abdomen blackish purple. Palpi, head, thorax, and antennæ chrome yellow. Underside as above. Legs blackish.

Expanse 1 inch.

Bengal. In Coll. F. Moore.

Genus TOCCOLOSIDA, Walk.

TOCCOLOSIDA RUBRICEPS, Walk. Cat. Lep. B. M. xxvii. p. 14.

Silhet. In Coll. W. W. Saunders, Esq.

APSARASA, n. g., Moore.

Palpi stout, erect, projecting above the head; second joint broad, compressed, covered with dense adpressed short hair-like scales; third joint cylindrical, naked, two-thirds the length of the second. Antennæ setulose. Head broad, prominent, with a short acute conical point projecting forward from the vertex. Body stout; abdomen long, extending one-third its length beyond the hind wings; apex tufted. Legs stout, squamose; fore legs slightly pilose beneath; mid tibiæ with one pair and hind tibiæ with two pairs of stout spurs, one in each pair short; tarsi set with short bristles beneath. Fore wings elongate; costa convex at the base; apex rounded; exterior border very oblique, convex, forming a rounded margin to one-third of the hind border: hind wings short, trigonate; apex rounded, exterior border convex, excavated below the apex.

PROC. ZOOLOG. SOC.—1867, No. XLIII.

APSARASA RADIANS.

Apatela radians, Westw. Cab. Orient. Ent. pl. 28. f. 4 (1847).

Glottula radians, Walk. Catal. Lepid. Het. B. M. Noct. pt. xv. p. 1668.

Remark.—I am uncertain about the position of this genus, and place it here with doubt.

Fam. CRAMBIDÆ.

Genus ESCHATA, Walk.

Syn. *Chærecla*, Walk. Suppl. p. 634.

ESCHATA GELIDA, Walk. Cat. Lep. Het. B. M. ix. Noct. p. 133. Darjeeling.

Genus APURIMA, Walk.

APURIMA XANTHOGASTRELLA, Walk. ib. xxvii. p. 194 (1863).

Rupela degenerella, Walk. ib. xxviii. p. 524.

Lithosia cramboïdes, Walk. ib. xxxi. Suppl. i. p. 230 (1864).

Genus SCIRPOPHAGA.

SCIRPOPHAGA AURIFLUA, Zeller, Monogr. Chilo. et Cramb. p. 2 (1863).

Calcutta.

S. GILVIBERBIS, Zeller, ib. p. 2 (1863).

BRIHASPA, n. g., Moore.

Male. Labial palpi porrect, slightly recurved, slender, smooth, pointed at the apex; second joint twice the length of the third. Maxillary palpi less than half the length of the labial, fringed. Antennæ minutely pectinated; basal joint thick. Head narrow, protruding in front, conical. Thorax stout. Abdomen attenuated, compressed at the sides; apical tuft prominent. Legs smooth, slender, long; hind legs very long (the tibia and tarsus together being three-quarters of an inch); hind tibiæ with four long spurs. Wings elongate, broad: fore wing acute at the apex; costa arched at the base; exterior margin slightly convex, oblique: hind wing produced at the apex; exterior margin slightly recurved; anal angle rounded. Cilia broad.

BRIHASPA ATROSTIGMELLA, n. sp. (Pl. XXXIII. fig. 13.)

Male pure white, glossy: fore wing with a black curved bar or brand at the base of the costa, beneath which is a small black spot; two black spots at the end of the cell, and an oval spot beneath them near the posterior margin; two pale yellow maculated transverse streaks obliquely before the apex, and two similar-coloured

spots above the anal angle of the hind wing. Labial and maxillary palpi and eyes black. Fore legs blackish.

Expanse $1\frac{1}{2}$ inch.

Darjeeling. In Coll. W. S. Atkinson; F. Moore.

RAMILA, n. g., Moore.

Male. Labial palpi porrect, slender; second and third joints of equal length; third joint pilose, pointed. Maxillary palpi extending beyond the head to near the tip of the labial, pilose, tufted at the apex. Proboscis small. Head large, broad, prominent, projecting considerably beyond the eyes, oval in front. Antennæ minutely serrated. Body rather stout; abdomen extending beyond the hind wings. Legs moderate; fore tibiæ incrassate, pilose beneath; hind tibiæ with four rather long spurs. Fore wings elongate; costa nearly straight; apex much produced and slightly falcate; exterior margin straight, very oblique, angle rounded; posterior margin convex in the middle: hind wings tririgate; apex produced and slightly falcate; anal angle truncate.

RAMILA MARGINELLA, n. sp. (Pl. XXXIII. fig. 16.)

Male silvery white: fore wing with numerous short transverse lunulate iridescent wrinkles; a narrow cupreous-brown marginal band along the costa; two oblique transverse narrow brown lines, the outer line submarginal and irregular, the inner line rather indistinct and terminated by two small brown discal spots, another similar spot being situated some distance within the cell. Two short transverse narrow brown lines crossing the lower part of the hind wing. Both wings with a narrow black lunular line to the exterior margin. Cilia of both wings pale ferruginous, edged with cinereous, the division being by a narrow black lunular line. Sides of head in front and palpi above brown. Fore legs partly brown; tarsi brown at the base of each joint.

Expanse $1\frac{1}{2}$ inch.

Darjeeling. In Coll. W. S. Atkinson; F. Moore.

Genus CRAMBUS.

CRAMBUS CONSOCIELLUS, Walk. Cat. Lep. Het. B. M. xxvii. p. 159.

Note.—North America is given in the 'Brit. Mus. Catalogue' as the habitat of this insect. This I have ascertained to be an error.

Genus ACARA, Walk.

ACARA MOROSELLA, Walk. ib. p. 199.

Silhet.

Genus SCHÆNOBIUS.

SCHÆNOBIUS MINUTELLUS, Zeller, Monogr. Chilo. et Cramb. p. 5 (1863).

Calcutta (*W. S. Atkinson*).

S. PUNCTELLUS, Zeller, ib. p. 4 (1863).

Calcutta (*W. S. Atkinson*).

Genus CALAMOTROPHA, Zeller.

CALAMOTROPHA ATKINSONI, Zeller, ib. p. 9 (1863).

Calcutta (*W. S. Atkinson*).

Tribe TORTRICES.

Fam. NYCTEOLIDÆ.

Genus HYLOPHILA, Hübn.

HYLOPHILA FALCATA, Walk. Cat. Lep. Het. B. M. xxxv. Suppl.
v. p. 1772.

Darjeeling.

H. CHLOROLEUCA.

Tyana chloroleuca, Walk. ib. p. 1777.

Darjeeling.

Genus TYANA, Walk.

TYANA CALLICHLORA. (Pl. XXXIII. fig. 14.)

Tyana callichlora, Walk. ib. p. 1776.

Darjeeling.

TYANA SUPERBA, n. sp. (Pl. XXXIII. fig. 15.)

Fore wing pearl-white; costa, a transverse subbasal band, and an oblique subapical irregular band dark saffron-yellow, the latter enclosing a white spot at each end, and both bands black-bordered, the subbasal on its outer margin, the other on its inner margin; costal margin at the apex and cilia anteriorly black; cilia posteriorly saffron-yellow, with black spots: hind wing white. Head and front of thorax saffron-yellow. Thorax white. Abdomen yellowish. Antennæ and palpi brown, with white spots. Legs white, fore and middle legs with yellow spots.

Expanse $1\frac{1}{8}$ inch.

Darjeeling. In Coll. F. Moore.

Genus APHUSIA, Walk.

? *Earias*, H.-Sch.

APHUSIA SPEIPLANA, Walk. ib. xii. Noct. p. 770 (1857).

Micra partita, Walk. ib. xxxiii. Suppl. iii. p. 799 (1865).

Fam. TORTRICIDÆ.

Genus CERACE, Walk.

CERACE STIPATANA, Walk. ib. xxviii. p. 422.

C. ONUSTANA, Walk. ib. xxviii. p. 423.

Silhet; Darjeeling.

Genus *ÆMENE*, Walk.

ÆMENE TAPROBANIS, Walk. Cat. Lep. Het. B. M. ii. Bombyces, p. 542.

Calcutta (*W. S. Atkinson*).

Tribe TINEINES.

Fam. TINEIDÆ.

Genus TINEA.

TINEA LONGICORNIS, Stainton, Trans. Ent. Soc. Lond. v. n. s. p. 113.

Calcutta.

Genus PORSICA, Walk.

PORSICA INGENS, Walk. Cat. Lep. Het. B. M. xxxv. Suppl. v. p. 1823.

Genus ALAVONA, Walk.

ALAVONA BARBARELLA, Walk. ib. xxviii. p. 515.

Fam. HYPONOMEUTIDÆ.

Genus ATTEVA, Walk.

Syn. *Amblothridia*, Wallengren; *Corinea*, Walk.

ATTEVA NIVEIGUTTA, Walk. ib. ii. Bomb. p. 526.

Corinea niveiguttella, Walk. ib. xxviii. p. 542.

Larva feeds on *Ailanthus excelsus*, residing in a common very fine web. At times a perfect pest, denuding the tree of its leaves.—*Dr. Bonavia*.

HYPONOMEUTA LINEATONOTELLA, n. sp. (Pl. XXXIII. fig. 18.)

Fore wing dark cream-white, marked with four black longitudinal subcostal lines, one basal and two subbasal black spots, a series of six subapical spots, and a row of spots along the apical and exterior margins; base of costa also black: hind wing cinereous brown. Cilia white. Head, thorax, palpi and legs cream-white, with black spots. Abdomen pale ferruginous. Antennæ white.

Expanse $1\frac{7}{8}$ inch.

Darjeeling. In Coll. F. Moore.

Fam. PLUTELLIDÆ.

Genus CEROSTOMA, Latr.

CEROSTOMA RUGOSELLA, Stainton, Trans. Ent. Soc. Lond. v. n. s. p. 113.

Calcutta (*W. S. Atkinson*).

C. ALBOFASCIELLA, Stainton, ib. v. n. s. p. 114.

Calcutta (*W. S. Atkinson*).

Fam. GELECHIDÆ.

Genus DEPRESSARIA, Haw.

DEPRESSARIA RICINI, Atkinson; Stainton, ib. v. n. s. p. 115.

Calcutta.

Larva feeds on the castor-oil plant (*Ricinus communis*), rolling up the edge of a leaf.—*W. S. Atkinson*.

D. ZIZYPHI, Atkinson; Stainton, ib. v. n. s. p. 115.

Calcutta.

Larva feeds on *Zizyphus jujuba*.—*W. S. Atkinson*.

D. ? RICINELLA, Atkinson; Stainton, ib. v. n. s. p. 110.

Calcutta.

Larva feeds on *Ricinus communis*, rolling up the edge of a leaf.—*W. S. Atkinson*.

Genus BINSITTA, Walk.

? *Cryptolechia*, Zell.

BINSITTA NIVIFERANA, Walk. Cat. Lep. Het. B. M. xxix. p. 832.

Genus GELECHIA, Zeller.

GELECHIA HIBISCI, Atkinson; Stainton, Trans. Ent. Soc. Lond. v. n. s. p. 117.

Calcutta.

Larva feeds on the tops of the yellow *Hibiscus*.—*W. S. Atkinson*.

G. PUBESCENTELLA, Stainton, ib. v. n. s. p. 117.

Calcutta (*W. S. Atkinson*).

G. SIMPLICIELLA, Stainton, ib. v. n. s. p. 118.

Calcutta (*W. S. Atkinson*).

Genus PARASIA, Dup.

PARASIA APICIPUNCTELLA, Stainton, ib. v. n. s. p. 119.

Calcutta (*W. S. Atkinson*).

Genus ANARSIA, Zeller.

ANARSIA CANDIDA, Stainton, ib. v. n. s. p. 114.

Calcutta (*W. S. Atkinson*).

Genus ŒCOPHORA, Zeller.

ŒCOPHORA SUBGANOMELLA, Stainton, ib. v. n. s. p. 119.

Calcutta (*W. S. Atkinson*).

Genus BUTALIS, Treit.

BUTALIS TRIOCELLATA, Stainton, ib. v. n. s. p. 120.

Calcutta (*W. S. Atkinson*).

Fam. GRACILLARIDÆ.

Genus GRACILLARIA, Zeller.

GRACILLARIA AURICILLA, Stainton, ib. v. n. s. p. 120.

Calcutta (*W. S. Atkinson*).

G. FALCATELLA, Stainton, ib. v. n. s. p. 121.

Calcutta (*W. S. Atkinson*).

G. USTULATELLA, Stainton, ib. v. n. s. p. 121.

Calcutta (*W. S. Atkinson*).

G. RESPLENDENS, Stainton, ib. i. 3rd ser. p. 294, pl. 10. f. 4.

Calcutta (*W. S. Atkinson*).

G. QUADRIFASCIATA, Stainton, ib. p. 295, pl. 10. f. 5.

Calcutta.

Larva mines the underside of the leaves of *Urena lobata*.—*W. S. Atkinson*.

G. GEMONIELLA, Stainton, ib. p. 297, pl. 10. f. 6.

Calcutta (*W. S. Atkinson*).

G. TERMINALIÆ, Stainton, ib. p. 298, pl. 10. f. 8.

Calcutta.

Larva mines the underside of the leaves of *Terminalia catappa*.—*W. S. Atkinson*.

G. NITIDULA, Stainton, ib. p. 299, pl. 10. f. 9.

Calcutta (*W. S. Atkinson*).

Genus CORISCIMUM, Zeller.

CORISCIMUM ORIENTALE, Stainton, ib. iii. n. s. p. 301.

Calcutta.

Larva feeds on the flower-buds of a species of *Bauhinia*.—*W. S. Atkinson*.

Genus ORNIX, Zeller.

ORNIX ALBIFRONS, Stainton, ib. v. n. s. p. 122.

Calcutta (*W. S. Atkinson*).

Fam. ELACHISTIDÆ.

Genus LOZOSTOMA.

LOZOSTOMA FLAVOFASCIATA, Stainton, ib. v. n. s. p. 124.

Calcutta (*W. S. Atkinson*).

L. SEMISULPHUREA, Stainton, ib. v. n. s. p. 125.

Calcutta (*W. S. Atkinson*).

Genus COSMOPTERYX, Hübn.

COSMOPTERYX ASIATICA, Stainton, ib. v. n. s. p. 122.

Calcutta (*W. S. Atkinson*).

C. SEMICOCCINEA, Stainton, ib. v. n. s. p. 123.

Calcutta (*W. S. Atkinson*).

C. ÆNEELLA, Stainton, ib. v. n. s. p. 124.

Calcutta (*W. S. Atkinson*).

Genus ATKINSONIA, Stainton.

ATKINSONIA CLERODENDRELLA, Stainton, ib. v. n. s. p. 125.

Calcutta.

Larva feeds on the tops of *Clerodendron*, drawing together the leaves with a white web.—*W. S. Atkinson*.

Fam. LITHOCOLLETIDÆ.

Genus LITHOCOLLETIS, Zeller.

LITHOCOLLETIS BAUHINIÆ, Atkinson; Stainton, ib. iii. n. s. p. 303.

Calcutta.

Larva mines the upper cuticle of the leaves of *Bauhinia purpurea*.—*W. S. Atkinson*.

Fam. LYONETIDÆ.

Genus PHYLLOCNISTIS, Zeller.

PHYLLOCNISTIS CITRELLA, Atkinson; Stainton, ib. iii. n. s. p. 303.

Calcutta.

Larva feeds on a species of *Citrus*.—*W. S. Atkinson*.: *Additional Species.*

Tribe PAPILIONES.

Fam. PAPILIONIDÆ.

PAPILIO ELEPHENOR, Doubleday, Ann. Nat. Hist. xvi. p. 305; Westw. Cab. Orient. Ent. pl. 31. f. 2, 3.

Silhet.

P. BOOTES, Westw. Ann. Nat. Hist. ix. p. 38; Arc. Ent. pl. 31.

P. GYAS, Westw. Arc. Ent. pl. 11. f. 1.

P. EVAN, Doubleday, Ann. Nat. Hist. xvi. p. 235; Gen. Diurn. Lep. pl. 2. f. 1; Westw. Orient. Ent. pl. 31. f. 1.

Silhet.

P. MEGARUS, Westw. Arc. Ent. pl. 52. f. 3.

Fam. PIERIDÆ.

PIERIS SETA, Moore, P. Z. S. 1857, p. 102, pl. 44. f. 3, ♀.

Fam. DANAIDÆ.

EUPLÆA ALCATHOË, Godt. Enc. Méth. ix. p. 178.

Fam. NYMPHALIDÆ.

MESSARAS ALCIPPE.

Papilio alcippe, Cram. iv. t. 389. f. G, H.
Silhet.

ATELLA SINHA, Kollar, Hügel's Kaschmir, iv. p. 438.

Atella egista auctorum.

NEPTIS RADHA, Moore, Cat. Lep. E. I. C. i. p. 166, pl. 4a. f. 4.

N. SOMA, Moore, P. Z. S. 1858, p. 9, pl. 49. f. 6.

Silhet.

ATHYMA RANGA, Moore, Cat. Lep. E. I. C. i. p. 175, pl. 5a. f. 6.

DILIPA MORGIANA, Westw. (Moore, ib. i. p. 201, pl. 6a. f. 5).

Khasia Hills (*Dr. Jerdon*).

ADOLIAS ADIMA, Moore, ib. i. p. 194; Trans. Ent. Soc. Lond. v.
n. s. p. 76.

A. JAHNU, Moore, ib. p. 192; ib. v. n. s. p. 74.

A. EVELINA, Stoll, Cram. Suppl. v. t. 28. f. 2, 2B.

A. SANCARA, Moore, *l. c.* i. p. 195; Trans. Ent. Soc. Lond. v.
n. s. pl. 9. f. 1.

A. IVA, Moore, *l. c.* i. p. 195; ib. v. n. s. pl. 8. f. 2.

NYMPHALIS DELPHIS, Doubleday, Ann. Soc. Ent. France, 1843,
p. 217, pl. 7.

AMATHUSIA AMYTHAON, Doubleday, Ann. Nat. Hist. xix. p. 175;
Westw. Cab. Orient. Ent. pl. 19. f. 1-3.

Silhet.

ENISPE CYCNUS, Westw. (Moore, Cat. Lep. E. I. C. i. p. 212).

THAUMANTIS NOURMAHAL, Westw. Trans. Ent. Soc. Lond. iv.
n. s. p. 178, pl. 18. f. 1, 1a.

Fam. SATYRIDÆ.

NEORINA KRISHNA.

Cyllo krishna, Westw. & Hewits. Gen. Diurn. Lep. p. 361.

DEBIS BHAIRAVA, Moore, Cat. Lep. E. I. C. i. p. 217.

D. SCANDA, Moore, ib. i. p. 218.

D. NADA, Moore, ib. i. p. 218.

D. KANSA, Moore, ib. i. p. 219.

D. SINORIX, Hewitson, Exot. Butt. 1862, pl. 131. f. 19, 20.

MYCALESIS SANATANA, Moore, *l. c.* i. p. 231.

YPHITHIMA HYAGRIVA, Moore, ib. i. p. 236.

Y. NARASINGHA, Moore, ib. i. p. 236.

MELANITIS LAIS, Fabr. (Cram. ii. t. 110. f. A, B).

Fam. ERYCINIDÆ.

DODONA DIPÆA, Hewits. Exot. Butt. 1865, pl. .

D. ADONIRA, Hewits. ib. pl. .

Fam. LYCENIDÆ.

Genus POLYOMMATUS, Latr.

POLYOMMATUS LAIUS, Cram. Pap. Exot. iv. t. 319. f. D, E.
Calcutta.

Larva feeds on *Zizyphus*.—*W. S. Atkinson*.

Genus CHRYSOPHANUS, Hübn.

CHRYSOPHANUS TIMÆUS.

Papilio timæus, Cram. Pap. Exot. t. 146. f. E, F, ♀.

Genus ILERDA, Doubleday.

ILERDA ANDROCLES, Doubl. Gen. Diurn. Lep. pl. 75. f. 2, ♂.
Darjeeling.

I. MOOREI, Hewitson, Ill. Diurn. Lep. Lyc. pt. 2. p. 58, ♂.

Genus APHNÆUS, Hübn.

APHNÆUS ICTIS, Hewits. ib. p. 61, pl. 25. f. 8, 9.
Calcutta.

Genus AMBLYPODIA, Horsf.

AMBLYPODIA QUERCETORUM, Boisd. (Moore, Cat. Lep. E. I. C.
i. pl. 1 a. f. 7).

Darjeeling.

A. PERIMUTA, Boisd. (Moore, ib. i. p. 42).
Silhet.

? AMBLYPODIA RAMA.

Thecla rama, Kollar, Hügel's Kaschmir, iv. p. 412, t. 4. f. 1, 2.
Darjeeling (*W. S. Atkinson*).

A. FULGIDA, Felder.

Genus MYRINA, Godart.

MYRINA AMYNTOR.

Papilio amyntor, Herbst, Pap. t. 300. f. 5, 6.
Silhet (*W. S. Atkinson*).

M. ONYX.

Thela onyx, Boisd. ; Moore, Cat. Lep. E. I. C. i. p. 30.
Myrina syrinx, Felder, Sitz. Akad. Wiss. Wien (1860); Hewits.
Ill. Diurn. Lep. Lyc. pt. i. p. 34, pl. 14. f. 32, 33.
Darjeeling.

Fam. SPHINGIDÆ.

CALYMNIA PANOPUS, Cram. pl. 224. f. A, B ; Westw. Cab. Orient.
Ent. pl. 6. f. 2.

Silhet.

MACROSILA NYCTIPHANES, Walk. Catal. Lep. Het. B. M. viii.
p. 209.

Silhet.

PANACRA AUTOMEDON, Walk. ib. p. 154.

Silhet.

P. MYDON, Walk. ib. p. 155.

Silhet.

P. VARIOLOSA, Walk. ib. p. 156.

Silhet.

P. SCAPULARIS, Horsf. (Walk. ib. p. 157).

Thyreus elegantulus, H.-Schæff. Lep. Spec. Nov. i. f. 479 (1856).
Silhet.

P. TRUNCATA, Walk. ib. p. 160.

Silhet.

P. ASSAMENSIS, Walk. ib. p. 160.

Silhet.

PHILAMPELUS SERICEUS, Walk. ib. p. 181.

Silhet.

ELIBIA DOLICHUS, Westw. Cab. Orient. Ent. pl. 30. f. 1.

Silhet.

DARAPSA HYPOTHOÛS, Cram. pl. 285. f. F.

Calcutta.

Feeds on *Nauclea kadamba*; pupa in folds of leaves.—*A. Grote, Esq.*

PERIGONIA MACROGLOSSOIDES, Walk. Catal. Lep. Het. B. M. xxxv. Suppl. p. 1851.

Darjeeling (*W. S. Atkinson*).

CHÆROCAMPA PALLICOSTA, Boisd. (Walk. ib. viii. p. 145).

C. ELPENOR, Linn.

MACROGLOSSA TRIOPUS, Westw. Cab. Orient. Ent. pl. 6. f. 4.
Silhet.

Note.—Add the synonyms as follows to the species of *Sphingidæ* described in 'Proc. Zool. Soc.' 1865, pp. 793, 794.

BASIANA SUPERBA, Moore, P. Z. S. 1865, p. 793.

Syn. *Basiana bilineata*, Walk. l. c. Suppl. v. p. 1857 (1866).

AMBULYX SUBSTRIGILIS, Westw. (P. Z. S. 1865, p. 793).

Syn. *Ambulyx maculifera*, Walk. l. c. Suppl. v. p. 1851, ♀.

PERGESA CASTOR, Boisd. (P. Z. S. 1865, p. 794).

Syn. *Pergesa velata*, Walk. l. c. Suppl. v. p. 1853.

Tribe BOMBYCES.

Fam. ÆGERIIDÆ.

LENYRA ASTAROTH, Westw. Cab. Orient. Ent. pl. 6. f. 5.

Sikkim (*Lieut. Beavan*).

Fam. ZYGÆNIDÆ.

ZYGÆNA CASHMIRENSIS, Kollar, Hügel's Kaschmir, iv. p. 459,
pl. 19. f. 6.

Darjeeling (*A. Grote, Esq.*).

Fam. AGARISTIDÆ.

EUSEMIA AMATRIX, Westw. Cab. Orient. Ent. pl. 33. f. 4.

E. aruna, Moore, Cat. Lep. E. I. C. ii. p. 288, ♀.

E. proxima, Walk. Cat. Lep. Het. B. M. i. p. 50.

Assam.

E. basalis, Walk. ib. p. 53.

E. VETULA, Hübn. Zutr. f. 657.

Silhet.

PHÆGORISTA CATOCALINA, Walk. Cat. Lep. Het. B. M. xxxv.
Suppl. v. p. 1859.

Bengal (collected by A. E. Russell).

Fam. LITHOSIIDÆ.

PERIDROME ORBICULARIS, Walk. ib. ii. p. 445.

Aganopsis subquadrata, Herr-Schæff. Lep. Spec. Nov. p. 70, f. 501.
Cherra Poonjee (*Col. Buckley*).

EUPLOCIA MEMBLIARIA, Walk. l. c. ii. p. 448.

NEOCHERA DOMINIA, Cram. t. 263. f. A, B.

Cherra Poonjee (*Col. Buckley*).

N. MARMOREA, Walk. ib. vii. p. 1674.

Silhet.

HYPSA SILVANDRA, Cram. t. 369. f. D.

Silhet.

PHILONA INOPS, Walk. l. c. ii. p. 457.

Silhet.

LITHOSIA SERVIA, Walk. ib. ii. p. 506.

L. TETRAGONA, Walk. ib. ii. p. 510.

Silhet.

L. VAGESA, Moore, Cat. Lep. E. I. C. ii. p. 304.

Darjeeling.

CYANA DETRITA, Walk. l. c. ii. p. 529.

Silhet.

DOLICHE GELIDA, Walk. ib. ii. p. 529.

Silhet.

BARSINE LINGA, Moore, Cat. Lep. E. I. C. ii. p. 301.

Darjeeling.

AGRISIUS GUTTIVITTA, Walk. l. c. iii. p. 723.

Darjeeling (*W. S. Atkinson*).

SESAPA EXCURRENS, Walk. ib. xxxi. Suppl. i. p. 255.

Cherra Poonjee.

S. DECURRENS, Walk. ib. p. 255.

Darjeeling.

BIZONE SIGNA, Walk. Cat. Lep. Het. B. M. xxxi. Suppl. ii. p. 550.
Silhet.

B. ARAMA, Moore, Cat. Lep. E. I. C. ii. p. 306, pl. 7a. f. 10.

NUDARIA SUBCERVINA, Walk. *l. c.* xxxi. Suppl. i. p. 274.
In Coll. W. S. Atkinson, Esq.

N. MARGARITACEA, Walk. *ib.* p. 275.

In Coll. W. S. Atkinson, Esq.

N. MARGARITARIA, Walk. *ib.* p. 275.

In Coll. W. S. Atkinson, Esq.

Fam. CHALCOSIIDÆ.

CYCLOSIA FULGINOSA, Walk. *ib.* ii. p. 418.
Silhet.

C. VIRGINALIS, Herr.-Schæff. Lep. Exot. Spec. Nov. i. f. 4.

C. subcyanescens, Walk. *l. c.* ii. p. 417.
Silhet.

MILIONIA GLAUCA, Cram. t. 363. f. D.

Silhet.

CHALCOSIA ADALIFA, Doubleday (Walk. *l. c.* ii. p. 421).
Silhet.

C. ZEHMA, Herr.-Schff. Lep. Exot. Spec. Nov. i. f. 3.
Silhet.

LAURION CIRCE, Boisd. ; Herr.-Schff. Lep. Exot. Spec. Nov. i.
f. 2.

L. metallica, Walk. Cat. Lep. Het. B. M. ii. p. 426.
Cherra Poonjee (*Col. Buckley*).

ETERUSIA TRICOLOR, Hope, Tr. Linn. Soc. xviii. p. 445, pl. 31.
f. 4.

Darjeeling (*W. S. Atkinson, Esq.*).

E. RISA, Doubleday, Zoologist, ii. p. 468.
Silhet.

E. RAJA, Moore, Cat. Lep. E. I. C. ii. p. 320, pl. 8a. f. 2.
Darjeeling.

E. PULCHELLA, Walk. *l. c.* ii. p. 431.
Darjeeling.

SYNTOMIS OCHSENHEIMERI, Boisd. Monogr. Zyg. pl. 7. f. 4.

S. IMAON, Cram. t. 248. f. E.

Silhet.

S. DIVISA, Walk. Cat. Lep. Het. B. M. i. p. 131.

Silhet.

S. MELAS, Walk. ib. p. 133.

S. VITREA, Walk. ib. p. 1594.

Silhet.

HYPOPOLA THELEBAS, Cram. pl. 150. f. D.

PHAUDA FLAMMANS, Walk. *l. c.* i. p. 257.

SORITIA LEPTALINA, Kollar, Hügel's Kaschmir, iv. p. 462.

Silhet.

RETINA RUBRIVITTA, Walk. *l. c.* ii. p. 439.

Silhet.

HERPA VENOSA, Walk. (Moore, Cat. Lep. E. I. C. ii. pl. 8a. f. 6).

CELERENA DIVISA, Walk. Trans. Ent. Soc. Lond. 3rd ser. i. p. 72.

Silhet.

NYCTEMERA CENIS, Cram. t. 147. f. E.

N. interlecta, Walk. Cat. Lep. Het. B. M. ii. p. 400.

Cherra Poonjee.

N. PLAGIFERA, Walk. ib. p. 400.

Silhet.

EUSHEMA FLAVESCENS, Walk. ib. p. 406.

Silhet.

DYSCHEMON NEDA, Klug, Neue Schmett. Lc. p. 6, pl. 4. f. 3.

Silhet.

Fam. LIPARIDÆ.

PANTANA DISPAR, Walk. Cat. Lep. Het. B. M. iv. p. 820.

Calcutta (*W. S. Atkinson*).

GENUSA BIGUTTA, Walk. ib. p. 818.

Calcutta (*W. S. Atkinson*).

G. DELINEATA, Walk. ib. p. 818.

Silhet.

G. COMPARATA, Walk. ib. xxxii. Suppl. ii. p. 340.

Darjeeling (*W. S. Atkinson*).

AROA SOCRUS, Geyer, Hübn. Zutr. f. 837, 838.

A. substrigosa, Walk. ib. iv. p. 794.

Silhet.

BAZISA DETECTA, Walk. Cat. Lep. Het. B. M. xxxii. Suppl. ii. p. 399.

Calcutta (*W. S. Atkinson*).

ARTAXA SUBFASCIATA, Walk. ib. p. 332.

Darjeeling (*W. S. Atkinson*).

A. DIGRAMMA, Boisd. Icon. Règ. Anim. Ins. p. 508, pl. 86. f. 4.

A. guttata, Walk. ib. iv. p. 795.

Calcutta (*W. S. Atkinson*).

A. JUSTICIÆ, Moore, Cat. Lep. E. I. C. ii. p. 352.

Calcutta.

Larva feeds on *Æschynomene sesban*, *Duranta*, *Zizyphus*, and *Justicia*.—*A. Grote, Esq.*

CHARNIDAS LITURA, Walk. Catal. Lep. Het. B. M. iv. p. 797.

PENORA SILHETICA, Walk. ib. xxxii. Suppl. ii. p. 341.

Silhet.

ODAGRA DEVESTITA, Walk. ib. p. 402.

Darjeeling (*W. S. Atkinson*).

EUPROCTIS LUNATA, Walk. ib. iv. p. 837.

Calcutta.

Larva feeds on *Combretum*.—*A. Grote, Esq.*

E. MELANOPHILA, Walk. ib. xxxii. Suppl. ii. p. 349.

Leucoma latifascia, Walk. ib. iv. p. 831.

Darjeeling (*W. S. Atkinson*).

E. METAMELANA, Walk. ib. xxxii. Suppl. ii. p. 349.

Cherra Poonjee (*W. S. Atkinson*).

E. GAMMA, Walk. ib. vii. p. 1731.

E. MADANA, Moore, Cat. Lep. E. I. C. ii. p. 348.

PSEUDOMESA QUADRIPLAGIATA, Walk. *l. c.* p. 923.

Silhet.

PIDA APICALIS, Walk. ib. xxxii. Suppl. ii. p. 400.

Darjeeling.

DASYCHIRA GROTEI, Moore, *l. c.* ii. p. 338.

D. CONVERGENS, Walk. *l. c.* iv. p. 868.

Silhet.

D. MARUTA, Moore, *l. c.* ii. p. 339.

Darjeeling.

GAZALINA VENOSATA, Walk. *ib.* xxxii. Suppl. p. 398.

G. APSARA.

Dasychira apsara, Moore, *l. c.* ii. p. 341.

OLENE MENDOSA, Hübn. Zutr. f. 293, 294.

Rilia lanceolata, Walk. *ib.* v. p. 1075.

ENOME AMPLA, Walk. (Moore, *l. c.* ii. pl. 9*a.* f. 4, ♂).

Calcutta. Female apterous.

LYMANTRIA LINEATA, Walk. *ib.* iv. p. 875.

Silhet.

L. MUNDA, Walk. *ib.* iv. p. 875.

Cherra Poonjee.

L. BEATRIX, Stoll, Cram. Suppl. v. pl. 40. f. 2, ♀.

L. marginata, Walk. *ib.* iv. p. 877.

Silhet.

L. ARYAMA, Moore, *l. c.* ii. p. 345.

DREATA HADES, Walk. *ib.* iv. p. 908.

Silhet.

JANA PALLIDA, Walk. *ib.* iv. p. 912.

Silhet.

TAGORA PATULA, Walk. *ib.* v. p. 1189.

Silhet.

APHA SUBDIVES, Walk. *ib.* v. p. 1180; Moore, *Cat. Lep. E. I. C.*
ii. pl. 10*a.* f. 4.

Silhet.

A. LANUGINOSA, Walk. *Trans. Ent. Soc. Lond.* 3rd ser. i. p. 83;
Cat. Lep. B. M. xxxii. Suppl. ii. p. 512.

Silhet.

Fam. ARCTIIDÆ.

GLANYCUS INSOLITUS, Walk. *Cat. Lep. Het. B. M.* iii. p. 635.

Silhet.

HYPERCOMPA PLAGIATA, Walk. *ib.* p. 655.

Silhet.

H. LONGIPENNIS, Walk. *ib.* iii. p. 655.

Silhet.

II. IMPLETA, Walk. Cat. Lep. Het. B. M. xxxi. Suppl. i. p. 286.

In Coll. W. S. Atkinson, Esq.

II. IMPERIALIS, Walk. ib. iii. p. 655.

ALOA LACTINEA, Cram. t. 133. f. D.

Bombyx sanguinea, Fabr. (Donovan, Ins. Ind. pl. 53).

AMERILA ASTRÆA, Drury, Ins. ii. pl. 28. f. 4.

In Coll. A. E. Russell.

SPILOSOMA SUFFUSA, Walk. l. c. iii. p. 677.

S. GOPARA, Moore, l. c. ii. p. 356, pl. 9a. f. 11.

ARCTIA IMBUTA, Walk. l. c. iii. p. 614.

ALPHEA ABDOMINALIS, n. sp.

Male and female. Differs from *A. fulvohirta* in having the spots larger and more regular in shape, and their interspaces jet-black; the hind wing being ochreous yellow, with two marginal series of black spots, which are smaller and run more or less into one another; the thorax in front is jet-black, and has three rounded white spots and an oval spot above on each side, the tegulæ or shoulder-piece having only a small black central spot; the abdomen is reddish ochreous, longer, and is not hairy, and has the tip, the anal tuft, and a dorsal and lateral row of spots jet-black.

Expanse, ♂ 2, ♀ $2\frac{5}{8}$ inches.

Darjeeling (*Sherwill*). In Coll. F. Moore.

Fam. NOTODONTIDÆ.

MENAPIA XANTHOPHILA, Walk. Cat. Lep. B. M. xxxii. Suppl. ii. p. 462.

CYPHANTA XANTHOCHLORA, Walk. ib. xxxiii. Suppl. iii. p. 856.

CETOLA DENTATA, Walk. ib. v. p. 1016.

PHALERA SANGANA, Moore, Cat. Lep. E. I. C. ii. p. 433.

P. GROTEI, Moore, ib. ii. p. 434.

Calcutta.

Larva feeds on *Cæsalpinia* and *Cassia fistula*.—*A. Grote, Esq.*

P. COSSOIDES, Walk. Trans. Ent. Soc. Lond. 3rd ser. i. p. 80.

Silhet.

ICHTHYURA FULGURITA, Walk. Cat. Lep. B. M. xxxii. Suppl. ii. p. 433.

Calcutta.

NERICE PALLIDA, Walk. ib. v. p. 1077.

APELA DIVISA, Walk. ib. v. p. 1093.

GARGETTA COSTIGERA, Walk. ib. xxxii. Suppl. ii. p. 455.
Darjeeling.

SYBRIDA INORDINATA, Walk. ib. p. 466.
Darjeeling.

Fam. BOMBYCIDÆ.

THEOPHILA BENGALENSIS.

Bombyx bengalensis, Hutton, Trans. Ent. Soc. Lond. 3rd ser. p. 322.
Neighbourhood of Calcutta.
Larva feeds on *Artocarpus lacoocha*.—*A. Grote, Esq.*

T. SHERWILLII, Moore.

Bombyx sherwillii, Moore, Trans. Ent. Soc. Lond. 3rd ser. p. 423,
pl. 22. f. 1.

BOMBYX TEXTOR, Hutton, Tr. Ent. Soc. Lond. 3rd ser. p. 309.
The Boro-pooloo Silkworm.

B. CRÆSI, Hutton, ib. p. 312.
The Nistry or Madrassee Silkworm.

B. FORTUNATUS, Hutton, ib. p. 312.
The Dasee Silkworm.

B. SINENSIS, Hutton, ib. p. 313.
The Sina or Cheena Silkworm.

B. RELIGIOSÆ, Helfer, Journ. Asiat. Soc. Beng. vi. p. 41.
The Joree or Deo-mooga Silkworm.

OCINARA LACTEA, Hutton, *l. c.* p. 328.

Fam. DREPANULIDÆ.

ORETA EXTENSA, Walk. (Moore, Cat. Lep. E. I. C. ii. pl. 11a.
f. 2).

O. suffusa, Walk. Cat. Lep. Het. B. M. v. p. 1167, ♀.

O. OBTUSA, Walk. ib. v. p. 1167.
Silhet.

Fam. SATURNIIDÆ.

ATTACUS GUERINI, Moore, P. Z. S. 1859, pl. 65. f. 3.

ACTIAS LETO, Doubleday, Proc. Ent. Soc. Lond. v. p. 51.
Darjeeling (*W. S. Atkinson*).

SATURNIA PYRETORUM, Westw. Cab. Orient. Ent. pl. 24. f. 2.

S. CIDOSA, Moore, Trans. Ent. Soc. Lond. 3rd ser. ii. p. 423,
pl. 22. f. 2.

Darjeeling.

S. LINDIA, Moore, ib. p. 424, pl. 22. f. 3.

RINACA ZULEIKA, Hope, Trans. Linn. Soc. xix. pl. 11. f. 5.

Darjeeling (*W. S. Atkinson*).

ANTHERÆA ROYLEI, Moore, P. Z. S. 1859, p. 256, pl. 64. f. 1.

Darjeeling (*Dr. Jerdon*).

CALIGULA THIBETA, Westw. Proc. Zool. Soc. 1853, p. 166.

Darjeeling (*W. S. Atkinson*).

Note.—*Loepa miranda*, Atkins., Moore, Trans. Ent. Soc. 1865,
p. 424, has been placed by mistake under the genus *Antheræa* (see
P. Z. S. 1865, p. 818).

Fam. LIMACODIDÆ.

SCOPELODES VENOSA, Walk. Cat. Lep. Het. B. M. v. p. 1105.

Silhet.

MIRESA BREVILINEA, Walk. ib. xxxii. Suppl. ii. p. 475.

Darjeeling (*W. S. Atkinson*).

CHILENA SIMILIS, Walk. ib. v. p. 1071.

Lasiocampa strigilis, Walk. ib. xxxii. Suppl. ii. p. 563.

NYSSIA HERBIFERA, Walk. ib. v. p. 1136.

N. LATIFASCIA, Walk. ib. v. p. 1136.

PARASA LEPIDA, Cram. ii. pl. 130. f. E.

Limacodes graciosa, Westw. Cab. Orient. Ent. p. 24. f. 4.
Larva feeds on *Eugenia* and *Mangifera*.—*A. Grote, Esq.*

P. PUNICA, Boisd., Herr.-Schff. Lep. exot. Spec. Nov. i. f. 177.

Silhet.

P. ISABELLA, Moore, Cat. Lep. E. I. C. ii. p. 415.

Larva feeds on the Sal (*Shorea robusta*).

P. LALEANA, Moore, ib. ii. p. 417.

Calcutta.

Larva feeds on *Amona rohitula*, *Ixora longiflora*, and *Mussenda frondosa*.—*A. Grote, Esq.*

P. NARARIA, Moore, ib. ii. p. 415.

Calcutta.

Larva feeds on a species of *Crescentia*.—A. Grote, Esq.

P. UNICOLOR, Moore, ib. ii. p. 415.

Calcutta.

Larva feeds on *Ochna squamosa*.—A. Grote, Esq.

LIMACODES APICALIS, Walk. Cat. Lep. Het. B. M. v. p. 1150.

Silhet.

Fam. LASIOCAMPIDÆ.

BRAHMÆA CERTHIA, Fabr. (Walk. ib. vi. p. 1316; Butler, P. Z. S. 1866, p. 119. f. 1).

Bombyx wallichii, Gray, Zool. Misc. p. 39.

B. spectabilis, Hope, Trans. Linn. Soc. xviii. pl. 31. f. 3.

Sikkim (*W. S. Atkinson*).

B. WHITEI, Butler, P. Z. S. 1866, p. 119. f. 2, ♂.

B. hearseyana, White, MS.

Sikkim (*W. S. Atkinson*).

LASIOCAMPA VITTATA, Walk. l. c. vi. p. 1440.

ODONESTIS BHEROBA, Moore, Cat. Lep. E. I. C. ii. p. 424, pl. 12a. f. 5, ♀.

Darjeeling.

TRABALA LÆTA, Walk. (Moore, ib. pl. 12a. f. 7, 7a, ♂ ♀).

LEBEDA NANDA, Moore, ii. p. 423, pl. 12a. f. 3, ♂.

L. UNDANS, Walk. Cat. Lep. Het. B. M. vi. p. 1458.

Silhet.

L. LATIPENNIS, Walk. ib. vi. p. 1457.

Calcutta.

Larva feeds on *Nyctanthes arbortristis* and *Lagerstrœmia indica*.

—A. Grote, Esq.

PÆCILOCAMPA UNDULOSA, Walk. ib. vi. p. 1477.

Sikkim (*Lieut. Beavan*).

MURLIDA LINEOSA, Walk. ib. vi. p. 1440.

Fam. COSSIDÆ.

ZENZERA LEUCONOTA, Steph., Walk. ib. vii. p. 1537.

Dum Dum, near Calcutta (*Frith*).

Z. CONFERTA, Walk. Cat. Lep. Het. B. M. vii. p. 1536.

Silhet.

Z. PAUCIPUNCTATA, Walk. ib. vii. p. 1537.

Silhet.

Fam. HEPIALIDÆ.

HEPIALUS NIPALENSIS, Steph., Walk. ib. vii. p. 1557.

PHASSUS DAMOR, Moore, Cat. Lep. E. I. C. ii. p. 437.

P. ABOE, Moore, ib. ii. p. 437.

DESCRIPTION OF PLATES XXXII. & XXXIII.

PLATE XXXII.

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| Fig. 1. <i>Cimicodes castanearia</i> , p. 616. | Fig. 6. <i>Vindusara compositata</i> (♂),
p. 653. |
| 2. <i>Agnidra specularia</i> , p. 618. | 7. <i>Hemerophila retractaria</i> , p. 627. |
| 3. <i>Garæus specularis</i> , p. 623. | 8. <i>Bargosa fasciata</i> , p. 634. |
| 4. <i>Dalima apicata</i> , p. 615. | 9. <i>Selenia decorata</i> (♀), p. 621. |
| 5. <i>Xandrames albofasciata</i> , p. 635. | 10. <i>Corotia cervinaria</i> , p. 625. |

PLATE XXXIII.

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| Fig. 1. <i>Psyra similaria</i> , p. 659. | Fig. 11. <i>Caprilia specularia</i> , p. 649. |
| 2. <i>Arichanna tramesata</i> , p. 658. | 12. <i>Acidalia bicaudata</i> , p. 643. |
| 3. — <i>marmorata</i> , p. 659. | 13. <i>Brihaspa atrostromella</i> , p. 666. |
| 4. <i>Cleora decussata</i> , p. 628. | 14. <i>Tyana callichlora</i> , p. 668. |
| 5. <i>Cidaria argentilineata</i> , p. 660. | 15. — <i>superba</i> , p. 668. |
| 6. — <i>calamistrata</i> , p. 663. | 16. <i>Ranila marginella</i> , p. 667. |
| 7. — <i>obscurata</i> , p. 663. | 17. <i>Propachys linealis</i> , p. 665. |
| 8. — <i>aurantiaria</i> , p. 661. | 18. <i>Hyponomeuta lineatonotella</i> ,
p. 669. |
| 9. <i>Melanippe catenaria</i> (♀), p. 655. | |
| 10. <i>Sauris decussata</i> , p. 655. | |

June 27, 1867.

Dr. E. Hamilton, V.P.Z.S., in the Chair.

Dr. J. Murie read a memoir on the anatomy of the Pilot Whale (*Globiocephalus melas*). Dr. Murie's observations on this animal were based upon a specimen recently captured off the coast of Scotland.

This paper will be printed entire in the Society's 'Transactions.'

Mr. P. L. Sclater, Secretary to the Society, called attention to the following noticeable additions to the Society's Menagerie since the last Meeting, all of the species being novelties to the collection:—

1. Two Eyton's Tree-ducks (*Dendrocygna eytoni*), presented by